

**UK MET OFFICE
GLOBAL DATA MONITORING REPORT**

May 2006

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1 and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of $>60 \text{ m s}^{-1}$ have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5 , then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference $> 60 \text{ m s}^{-1}$ have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure Parameter

- | | |
|---|---|
| 4 | Mean wind vectors |
| 5 | Mean observation - background wind vector |
| 6 | Mean observation-background speed (m s^{-1}) |
| 7 | RMS observation-background vector (m s^{-1}) |

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5 , then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbiting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbiting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbiting satellite NOAA-18. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics (**Geopotential Height and Windspeed at 100 and 500 hPa**) for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPS, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November 2003. Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.
29. December 2005. Included statistics for ATOVS sounding data from NOAA-18.

TABLE 1
MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for ships, fixed buoys and platforms.
Standard of comparison	:Background field from UKMO global model.
Observation times	:All hours
Elements monitored	:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (Degrees). :Air temperature (Degrees C). :Relative Humidity (%). :Sea surface temperature (Degrees).

Parameters monitored

:NOBS	:Number of observations received excluding duplicates.
:PGE	:Percentage of observations with gross errors.
:%REJ	:Percentage of observations flagged excluding those with gross errors.
:SD	:SD of difference of observations from background values excluding those with gross errors.
:BIAS	:Mean difference of observations from background values excluding those with gross errors. N.B. a positive bias indicates the wind observation is veered to the background.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT

:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA

:NOBS	≥ 20 , and one or more of the following:	
1. bias	≥ 4 hPa	(pressure),
	$\geq 5 \text{ m s}^{-1}$	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	$\geq 15\%$	(relative humidity)
2. SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	$\geq 25\%$	(relative humidity)
3. PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed $> 5 \text{ m s}^{-1}$

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FZ6	P	46	0	65	2.2	4.7	5.2
A8IX5	P	36	0	86	1.0	4.8	4.9
CGDS	P	83	0	100	0.5	-8.4	8.4
C6FZ6	P	42	0	2	3.1	5.1	6.0
C6LU4	P	45	0	2	0.9	4.6	4.7
C6PZ3	P	59	0	97	1.9	6.5	6.7
ELVF4	P	36	0	22	0.8	4.3	4.3
FKJB	P	119	19	100	7.2	2.8	7.8
KF003	P	20	0	85	3.8	-6.6	7.7
KS049	P	241	0	0	0.8	-4.1	4.1
LDGJ	P	24	88	100	0.1	-14.2	14.2
OWTW2	P	31	0	0	0.8	4.2	4.3
TEST	P	24	100	100			
UCTK	P	50	2	12	1.7	-4.0	4.4
UCUO	P	25	20	100	5.3	6.1	8.1
UCUQ	P	35	3	94	3.0	10.6	11.0
UGNQ	P	24	0	0	0.9	-5.2	5.2
UGOU	P	27	22	44	3.0	-6.8	7.4
VRBH5	P	26	0	0	1.9	4.1	4.5
VVCZ	P	22	0	9	1.8	5.0	5.3
V2GR	P	27	41	74	1.7	-0.7	1.8
V7IX7	P	23	17	96	2.7	9.9	10.3
WDB9918	P	57	0	100	2.5	-4.1	4.8
WDB9986	P	34	6	100	0.8	6.2	6.2
3EES2	P	43	0	51	1.6	4.3	4.6

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
IBQQ	SPEED	38	0	5	3.5	5.0	6.1
LDGJ	SPEED	20	5	100	7.9	5.7	9.7
VVCZ	SPEED	22	5	100	4.1	6.4	7.6
V2AF5	SPEED	119	0	31	5.4	5.7	7.8
41038	SPEED	40	0	100	2.7	-5.3	5.9
62052	SPEED	38	0	0	2.5	-6.3	6.8
9HGR8	SPEED	97	26	72	6.7	5.9	8.9

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
KSDF	DIRN.	30	0	0	30.4	-44.3	53.8
LAJV4	DIRN.	95	7	0	42.9	96.5	105.6
SYAQ	DIRN.	25	0	0	82.1	24.4	85.7
TOUR	DIRN.	131	0	0	109.6	69.5	129.8
23174	DIRN.	114	0	0	130.9	-56.2	142.4
42022	DIRN.	28	0	0	21.3	-45.3	50.0
46078	DIRN.	396	0	0	12.0	-38.4	40.3

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
BATEU00	T	75	8	100	4.9	-4.2	6.4
LDGJ	T	24	0	100	0.6	-9.5	9.5
PCHM	T	36	0	100	5.2	4.9	7.1
PHEO	T	21	0	100	4.8	4.3	6.5
SP34	T	99	0	100	2.8	-4.6	5.4
TEST	T	24	100	100			
UBXS	T	43	0	100	1.4	5.0	5.2
UCTS	T	54	0	100	2.1	4.0	4.5
WADZ	T	52	0	100	3.1	4.1	5.2
WBN5978	T	54	2	100	5.0	4.3	6.6
WCY2306	T	177	6	100	3.5	5.9	6.9
WDB5265	T	21	0	100	2.1	4.2	4.6
WN4201	T	26	4	100	4.4	7.4	8.6
WTEF	T	74	1	100	3.3	6.5	7.3
WXJ63	T	231	12	100	3.1	8.4	8.9

44255	T	540	0	100	1.3	7.3	7.4
46081	T	738	0	100	2.2	5.0	5.4
IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CGBY	RH	181	0	100	11.2	16.6	20.0
DGHB	RH	25	0	100	16.7	-15.6	22.9
ELWX5	RH	112	0	100	20.4	-51.2	55.1
FNAT	RH	39	0	100	8.8	18.0	20.0
FNFP	RH	191	0	100	13.5	-15.7	20.7
LADY5	RH	42	0	100	9.8	15.5	18.3
PFRO	RH	23	0	100	17.8	-15.3	23.4
VRZZ5	RH	55	0	100	8.0	-16.1	18.0
V7JC2	RH	51	0	100	9.4	-26.4	28.0
62133	RH	735	0	100	11.9	-16.6	20.4

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8BR8	SST	22	0	105	1.8	-3.7	4.2
CGDR	SST	31	0	103	1.5	3.3	3.6
CG8049	SST	51	0	100	1.3	6.6	6.7
DACP	SST	23	4	100	1.6	3.2	3.5
DHSI	SST	34	0	21	1.3	-3.4	3.7
DNDD	SST	22	0	105	0.8	3.4	3.5
FPOD	SST	26	77	92	2.1	6.0	6.4
HPDV	SST	28	0	100	1.8	3.5	3.9
IBPW	SST	40	0	92	3.1	-4.5	5.4
KRGB	SST	540	37	65	1.8	0.4	1.8
LADR4	SST	29	0	69	0.9	4.5	4.6
LAXP4	SST	24	4	58	2.9	-4.5	5.3
SBFC	SST	29	7	28	2.3	3.6	4.2
SIWB	SST	32	0	75	1.0	3.0	3.2
S6HU4	SST	24	0	25	0.9	-3.3	3.4
S6IW	SST	37	0	51	2.1	-5.2	5.6
TEST	SST	24	100	100			
UCEF	SST	36	0	36	1.7	3.3	3.7
UCFT	SST	42	0	24	2.1	-3.2	3.8
VRBN8	SST	33	0	18	1.9	3.0	3.5
V2EX	SST	41	7	110	1.7	-3.0	3.5
V7IA5	SST	43	0	21	1.5	-3.0	3.4
V7IP9	SST	47	0	100	1.3	5.6	5.8
WMLH	SST	43	2	100	1.3	3.0	3.3
WQZ9670	SST	60	2	88	1.7	5.8	6.1
WTEA	SST	47	0	32	1.2	3.1	3.3
WXQ4511	SST	26	0	62	1.6	4.5	4.8
WZJD	SST	36	0	100	1.2	-3.5	3.7
3FRR5	SST	64	0	100	0.9	-7.1	7.1
41096	SST	93	38	100	6.2	-2.5	6.7
44014	SST	661	0	49	1.9	-3.4	3.9
44141	SST	739	0	95	1.7	6.3	6.6
45008	SST	246	0	61	1.1	-3.0	3.2
45149	SST	733	0	76	1.8	-3.6	4.0
45154	SST	600	1	97	1.3	4.1	4.3

TABLE 2
MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for drifting buoys.
Standard of comparison	:Background field from UKMO global model.
Position	:Average latitude and longitude for period.
Observation times	: All hours
Elements monitored	:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees). :Sea surface temperature (degrees).

Parameters monitored

:NOBS	:Number of observations received excluding duplicates.
:PGE	:Percentage of observations with gross errors.
:%REJ	: Percentage of observations flagged excluding those with gross errors
:SD	:SD of difference of observations from background values excluding those with gross errors.
:BIAS	:Mean difference of observations from background values excluding those with gross errors. N.B. a positive bias indicates the wind observation is veered to the background.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT	:15 hPa (pressure)
	:25 m s^{-1} (vector wind)
	:10 degrees (sea surface temperature)

SELECTION CRITERIA :	NOBS	≥ 20 , and one or more of the following:
	1. bias	$\geq 4 \text{ hPa}$ (pressure), $\geq 5 \text{ m s}^{-1}$ (wind speed), $\geq 30 \text{ degrees}$ (direction). $\geq 3 \text{ degrees}$ (sea surface temperature).
	2.SD	$\geq 6 \text{ hPa}$ (pressure), $\geq 80 \text{ degrees}$ (direction). $\geq 5 \text{ degrees}$ (sea surface temperature).
	3.PGE	≥ 25 .

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed $> 5 \text{ m s}^{-1}$

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
16560	-59.5	61.9	P	96	31	95	6.5	9.2	11.2
21960	42.3	179.9	P	624	0	100	2.0	4.0	4.5
23593	13.3	65.3	P	394	0	100	0.7	-5.1	5.2
23594	-1.3	54.2	P	477	0	100	0.6	-4.9	5.0
25574	85.5	25.5	P	24	100	100			
47506	85.8	-62.1	P	20	0	100	0.4	7.8	7.8
68992	-54.4	3.3	P	1366	0	100	1.1	-4.7	4.8
71636	-62.0	1.8	P	1050	11	84	7.4	-2.3	7.7
IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41941	28.4	-95.1	SPEED	540	2	100	5.9	6.9	9.1
IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
21549	33.9	150.2	SST	94	18	100	7.6	2.1	7.9
22625	18.6	121.1	SST	25	0	100	3.0	-5.0	5.8
22918	-7.4	121.7	SST	70	0	100	0.7	-4.2	4.3
22925	34.4	169.0	SST	773	4	100	3.0	-4.2	5.1
22932	39.1	142.9	SST	449	0	69	1.9	-3.8	4.3
32671	-30.3	-125.4	SST	80	100	100			
42570	22.8	-87.0	SST	201	1	61	2.4	-3.5	4.3
44502	48.1	-47.9	SST	705	58	100	0.8	-0.7	1.1
44503	43.4	-52.0	SST	601	49	100	0.7	-1.7	1.8
44504	49.9	-51.3	SST	818	48	100	3.6	1.7	4.0
44505	46.7	-48.6	SST	786	57	100	0.4	0.4	0.6
44506	48.3	-49.0	SST	871	60	100	0.8	-1.6	1.8
44507	47.6	-52.2	SST	567	46	46	0.7	-1.2	1.4
51681	2.6	128.6	SST	24	0	100	0.6	-3.0	3.1
51959	-8.8	160.7	SST	46	0	100	0.8	-3.2	3.3
52613	-18.2	178.2	SST	27	0	70	2.2	-3.3	4.0
53562	60.7	-147.9	SST	43	79	100	6.4	5.1	8.2
61842	37.0	12.5	SST	20	100	100			
61843	37.0	12.4	SST	27	100	100			
71644	-52.1	57.0	SST	1096	5	100	1.0	8.2	8.2

TABLE 3
MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1. bias	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION MAY 2006

WMO REGION 1:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60320	35.9N	5.4W	2	MS	44	0	0	0	1.2	-9.9	10.0
60423	36.3N	8.0E	680	S8	92	91	99	0	0.0	0.4	0.4
62056	32.8N	21.9E	625	S8	91	2	2	1	1.2	-5.4	5.5
63210	11.3N	49.2E	2	M	28	0	0	0	1.3	-4.1	4.3
63330	13.5N	39.5E	2070	MS	50	48	96	0	12.2	-2.0	12.4
63333	11.1N	39.7E	1903	MS	74	0	0	0	1.1	5.0	5.1
63334	10.3N	37.7E	2515	M	75	0	0	0	1.6	9.8	9.9
63450	9.0N	38.8E	2354	MS	96	0	0	0	0.9	4.1	4.2
63453	8.9N	39.9E	930	S	72	0	0	0	1.3	-4.7	4.9
63478	5.9N	43.6E	295	MS	43	0	0	0	1.1	5.9	6.0
63671	1.8N	40.1E	244	M	119	2	2	1	2.0	-5.0	5.4
63801	4.9S	29.6E	882	S8	43	0	0	0	1.0	7.9	8.0
63881	8.0S	31.6E	1923	S	34	1	3	0	1.3	12.4	12.5
67250	15.6S	32.8E	882	S8	28	28	100	0			
67295	19.1S	33.5E	731	S8	70	22	31	0	2.0	13.2	13.4
68014	19.6S	18.1E	1411	S8	68	1	1	0	0.4	-7.1	7.1
68030	18.5S	25.6E	1071	S8	82	0	0	0	4.6	9.0	10.1
68102	19.9S	16.4E	1343	S8	118	0	0	0	0.5	6.3	6.3
68300	26.6S	15.1E	16	MS	117	0	0	0	0.6	-13.4	13.4
68312	26.5S	18.1E	1067	S8	60	0	0	0	0.5	4.4	4.4
68396	26.5S	31.3E	641	S8	60	0	0	0	0.8	4.7	4.8
68575	30.0S	30.0E	1175	S8	123	123	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
30554	54.5N	113.6E	995	MS	123	0	0	0	0.8	11.6	11.6
31534	50.4N	131.0E	230	MS	121	2	2	7	2.6	-5.0	5.6
35416	49.1N	54.7E	128	MS	124	0	0	1	1.1	4.1	4.2
36982	41.9N	78.2E	3635	S7	100	0	0	0	0.6	5.5	5.5
38846	38.4N	70.0E	1437	S8	112	2	2	1	1.8	-6.1	6.4
38944	37.5N	69.4E	448	MS	67	0	0	0	1.0	-6.9	7.0
40435	27.0N	44.1E	991	MS	63	0	0	2	1.3	7.1	7.2
40700	39.6N	47.9E	45	MS	121	2	2	0	0.8	-5.9	6.0
40713	37.4N	46.3E	1475	MS	120	46	38	0	0.6	13.8	13.8
40726	36.8N	45.7E	1384	MS	118	0	0	1	0.8	4.0	4.1
40741	36.5N	61.2E	235	MS	119	1	1	0	0.7	-4.9	4.9
40743	36.2N	57.7E	978	MS	124	0	0	0	0.7	5.8	5.8
40757	35.6N	53.4E	1171	MS	120	0	0	0	0.9	4.3	4.4
40780	33.6N	46.4E	1362	MS	121	0	0	0	0.6	5.1	5.1
40854	29.1N	58.4E	1067	MS	120	0	0	1	1.2	10.3	10.4
41241	26.2N	56.2E	3	MS	95	0	0	0	0.6	-4.3	4.3
41252	23.4N	56.5E	244	MS	102	0	0	0	0.6	-8.9	8.9
41254	23.1N	57.6E	1755	S8	124	124	100	0			
41396	16.0N	48.9E	700	MS	29	2	7	24	0.8	6.5	6.5
41466	13.7N	44.1E	1402	S8	62	3	5	3	0.6	-7.4	7.4
44416	28.6N	81.6E	720	MS	74	3	4	4	1.8	4.9	5.2
47022	40.8N	128.2E	1224	S	103	0	0	0	0.9	5.9	6.0
47678	33.1N	139.8E	79	MS	124	0	0	0	0.7	-9.1	9.1
48921	21.6N	101.9E	923	S	45	45	100	0			
48924	21.1N	101.5E	644	S	56	0	0	0	0.7	11.8	11.8
48925	20.7N	102.0E	550	S	52	1	2	2	0.9	-9.4	9.4
48938	19.2N	101.7E	326	MS	57	41	72	0	0.3	14.4	14.4
50978	45.3N	130.9E	234	MS	124	0	0	0	0.7	-5.9	5.9
52866	36.6N	101.8E	2262	S	124	0	0	0	0.9	-4.5	4.6
53646	38.3N	109.8E	1058	MS	124	0	0	0	0.6	-12.0	12.0
54292	42.9N	129.5E	178	MS	124	0	0	0	0.9	-9.4	9.4

56462	29.0N	101.5E	2994	S	124	0	0	0	1.3	8.5	8.6
56768	25.0N	101.5E	1773	S	124	0	0	0	0.7	-5.1	5.1
57816	26.6N	106.7E	1074	MS	124	78	63	0	0.4	-14.6	14.6
59023	24.7N	108.1E	214	MS	124	0	0	0	0.8	-5.6	5.7
59663	21.8N	112.0E	22	MS	124	0	0	0	0.7	-7.8	7.8

WMO REGION 3:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80426	9.4N	70.6W	582	MS	26	1	4	0	0.7	4.4	4.5
80475	7.6N	72.1W	327	MS	25	1	4	0	0.8	4.6	4.7
82181	2.0S	54.1W	146	MS	89	0	0	0	1.2	5.1	5.2
82704	7.6S	72.7W	170	MS	93	0	0	0	1.1	-4.0	4.1
83235	12.4S	46.4W	604	MS	91	1	1	0	1.2	5.8	5.9
83332	14.1S	46.4W	826	MS	91	4	4	0	1.0	13.4	13.4
83470	17.9S	50.9W	727	MS	88	3	3	2	0.8	-5.8	5.9
83531	18.6S	46.5W	940	MS	93	0	0	0	0.7	-6.1	6.1
83738	22.5S	44.5W	440	MS	90	1	1	0	0.9	-4.4	4.5
83836	25.5S	50.6W	837	MS	93	0	0	0	0.5	-4.5	4.5
83970	31.3S	50.9W	4	MS	78	0	0	0	0.7	-5.5	5.5
84140	1.1S	79.5W	73	MS	50	0	0	0	0.8	6.7	6.7
84143	1.0S	78.6W	2628	S7	45	0	0	0	0.7	-4.8	4.9
84160	1.3S	78.6W	2940	S7	53	0	0	0	0.5	13.5	13.5
84377	3.8S	73.3W	125	MS	108	0	0	0	1.0	4.4	4.5
84425	5.9S	76.1W	179	MS	23	0	0	0	1.1	4.4	4.5
84452	6.8S	79.8W	29	MS	110	0	0	0	0.7	4.9	4.9
84455	6.5S	76.4W	281	MS	81	0	0	0	1.0	7.2	7.3
84472	7.1S	78.5W	2620	S	52	0	0	2	1.0	-6.2	6.3
84474	7.2S	76.7W	350	S	22	0	0	0	1.2	9.0	9.1
84501	8.1S	79.0W	26	MS	83	0	0	0	0.7	4.6	4.7
84686	13.6S	72.0W	3248	S	112	0	0	0	0.9	-4.4	4.5
84688	13.7S	73.4W	3444	S	46	0	0	0	0.7	-12.9	12.9
85140	14.3S	67.4W	140	MS	58	0	0	0	1.3	8.3	8.4
85264	18.5S	64.1W	1998	S	58	58	100	0			
85312	19.8S	63.9W	992	S	47	0	0	0	1.1	-6.3	6.4
85406	18.5S	70.2W	55	M	120	0	0	0	0.9	4.0	4.1

WMO REGION 4:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	124	124	100	0			
71181	47.1N	55.3W	29	MS	124	0	0	0	0.7	-5.5	5.5
71581	54.5N	128.6W	215	MS	124	77	62	0	1.9	-8.6	8.8
71751	48.4N	89.1W	209	M	40	4	10	68	3.9	4.2	5.7
71979	53.8N	118.4W	1542	MS	105	0	0	0	0.6	10.4	10.4
72327	36.1N	86.7W	182	MS	122	0	0	0	0.7	4.0	4.1
72376	35.2N	111.8W	2181	MS	102	102	100	0			
76055	31.0N	114.9W	440	MS	62	62	100	0			
76225	28.6N	106.1W	1435	MS	93	0	0	0	0.7	-4.3	4.4
76382	25.5N	103.5W	1124	MS	81	0	0	0	1.0	4.2	4.3
76543	22.0N	98.8W	104	MS	63	0	0	0	1.1	9.1	9.2
76658	19.2N	103.7W	494	MS	37	0	0	0	0.8	5.5	5.6
76762	17.5N	99.5W	1265	MS	89	0	0	0	0.8	5.5	5.6
76843	16.8N	93.1W	528	MS	112	0	0	1	1.2	-5.1	5.2
78588	17.2N	87.5W	-276	M	124	124	100	0			
78627	15.3N	91.5W	1901	S	27	0	0	0	0.7	5.0	5.0

WMO REGION 5:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
92003	9.1S	143.2E	5	MS	41	1	2	15	0.6	-4.1	4.1
92010	6.1S	145.4E	1587	M	30	0	0	0	0.5	9.8	9.8
97284	8.6S	120.5E	1170	S8	88	0	0	0	0.6	4.6	4.6
97378	10.7S	123.1E	1	MS	39	39	100	0			

WMO REGION 6:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	109	0	0	1	1.0	6.0	6.1
04208	74.0N	57.8W	40	MS	123	53	43	0	0.8	-0.1	0.8
04330	74.3N	20.2W	44	MS	111	0	0	0	0.7	-4.7	4.8
04416	72.6N	38.4W	3202	S	122	1	1	1	0.6	4.9	4.9
06239	54.9N	44.7E	49	MS	318	58	18	0	7.8	-0.8	7.8
08226	40.7N	3.2W	639	MS	65	0	0	0	0.9	-5.2	5.3
08912	42.9N	0.8W	1434	MS	99	99	100	0			
08922	42.8N	0.2W	1660	MS	66	66	100	0			
10850	48.8N	10.7E	457	MS	372	0	0	0	0.4	-5.7	5.7
11116	47.5N	10.8E	870	MS	24	0	0	0	0.7	4.2	4.3
13269	44.3N	19.9E	176	MS	124	0	0	0	0.7	7.7	7.7
14554	44.9N	18.4E	136	S	62	1	2	0	0.7	-13.1	13.1
16204	42.9N	11.8E	816	S	78	0	0	0	0.7	4.0	4.1
16344	39.3N	16.4E	1710	S8	362	0	0	0	1.0	4.8	4.9
16538	40.1N	9.3E	1022	S	34	0	0	0	0.8	9.3	9.3
17521	35.2N	33.5E	285	MS	105	105	100	0			

ANTARCTIC:

STATION	LAT	LONG	HT (M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89253	63.2S	55.4W	75	M	255	0	0	15	2.2	4.3	4.8
89266	72.2S	60.2W	91	S	344	342	99	0	0.2	0.7	0.7
89272	74.8S	70.5W	1395	MS	57	57	100	0			
89610	65.9S	113.1E	90	S	325	0	0	1	1.3	-9.1	9.2
89614	66.7S	111.5E	500	S	337	337	100	0			
89661	73.5S	169.8E	200	S	492	490	100	0			
89666	76.7S	163.0E	200	S	496	1	0	0	1.2	6.1	6.2
89769	78.5S	168.4E	50	S	894	0	0	0	1.9	-4.4	4.8
89811	66.7S	112.5E	1366	S	360	0	0	0	1.2	-5.1	5.2

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s⁻¹

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s⁻¹ Vector Wind

SELECTION CRITERIA :N REP ≥ 20

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				BIAS
		PG	PR	RMS	PG		PR	PC	RMS		
AAH	1635	1	15	1.2	0.3	1622	0	14	0	5.1	0.4
AAL	8228	0	8	1.3	0.2	7681	0	8	0	4.6	0.4
AAR	803	0	3	1.6	-0.4	786	0	5	0	9.4	-0.1
ACA	3376	1	7	1.4	-0.1	2765	0	7	0	5.6	0.2
ACF	46	11	35	3.1	-0.1	22	0	45	0	22.4	-4.1
ACI	133	0	21	1.2	0.2	127	2	24	0	9.7	-1.8
AEA	1278	1	3	1.8	0.3	1060	0	3	0	6.9	-0.1
AFL	531	1	5	1.7	0.1	291	0	7	0	8.2	0.6
AFR	5403	0	3	1.3	0.1	5112	0	3	0	4.9	0.4
AFZ	42839	0	11	1.5	0.9	42839	0	11	0	5.7	0.7
AIC	42	0	2	1.4	-0.7	22	0	5	0	6.6	1.2
AJM	212	0	8	2.1	-0.2	170	0	9	0	9.3	-0.1
AJX	273	0	4	1.3	0.5	271	0	5	0	7.3	-0.3
AME	24	4	4	1.2	-0.3	24	0	0	0	8.1	0.3
AMT	1726	1	10	1.2	0.0	1695	0	11	0	6.1	0.1
AMX	449	1	4	1.7	0.2	377	1	5	0	7.1	0.2
ANA	64	2	5	1.4	-0.1	64	0	8	0	9.0	-1.1
ANZ	7058	0	31	1.4	0.2	7003	0	31	0	6.9	-0.1
ATN	134	1	100	3.7	-1.8	120	0	3	0	8.1	-0.3
AUA	450	0	3	1.3	0.5	412	0	2	0	3.8	0.4
AVA	442	1	3	1.4	0.1	439	0	5	0	7.3	0.0
AVN	141	0	47	0.9	0.2	139	0	48	0	9.9	-1.1
AWE	1041	1	4	1.3	-0.5	1024	0	4	0	5.8	0.3
AXF	106	0	42	0.8	0.5	106	0	42	0	5.9	0.8
AZA	537	1	7	2.2	0.7	453	1	6	0	8.3	-0.2
BAF	30	0	13	2.3	-1.1	23	0	4	0	7.1	2.3
BAW	690	1	24	1.7	-0.5	438	0	19	0	6.6	0.3
BBR	209	1	4	1.6	-0.7	208	0	6	0	9.1	-0.3
BMA	364	0	7	1.2	0.0	330	0	7	0	3.7	1.1
BPA	405	1	13	2.1	0.8	381	1	8	0	9.0	0.0
BSK	41	2	15	1.1	0.4	36	0	19	0	6.7	1.4
BWA	328	1	4	1.9	-0.2	264	0	2	0	6.8	-0.1
CAL	84	2	13	1.9	-1.0	83	2	13	0	12.6	-1.1
CCA	189	1	6	2.1	0.6	172	0	100	0	12.0	-0.2
CES	591	1	6	1.8	-0.4	589	1	7	0	8.9	0.9
CFC	29	0	3	2.2	1.2	26	0	4	0	11.3	3.0
CFG	778	1	5	1.5	0.1	620	0	5	0	9.2	-0.3
CFY	60	0	0	1.2	-0.1	55	0	0	0	2.8	0.7
CGF	507	0	1	1.2	-0.2	432	0	1	0	3.3	0.8
CGH	454	0	1	1.1	-0.2	386	0	1	0	3.1	0.8
CKK	206	0	3	1.7	0.6	204	0	7	0	11.7	0.3
CKS	230	0	9	1.9	0.0	190	0	8	0	8.0	0.5
CLX	289	1	6	1.8	-0.6	153	0	7	0	9.5	-0.5
CNJ	31562	0	75	1.1	0.5	31562	0	75	0	4.4	0.4
COA	4895	0	8	1.2	0.0	4594	0	7	0	4.4	0.5
CRL	99	0	6	1.5	-0.4	93	0	9	0	9.0	-0.2
CSA	49	0	0	1.0	-0.4	43	0	0	0	5.3	0.4
CSD	74	0	7	2.4	0.3	53	0	4	0	5.8	-0.5
CSN	148	0	7	1.9	0.1	147	1	6	0	8.7	0.8
CUB	282	1	9	2.0	0.7	231	0	100	0	10.6	0.2
DAB	1183	0	3	1.3	-0.1	1052	0	3	0	3.6	0.4
DAI	1209	0	7	1.2	0.3	1065	0	7	0	3.2	0.8
DAL	4506	0	28	1.7	0.6	4221	0	28	0	5.2	0.1
DLH	5702	0	4	1.3	0.0	5336	0	4	0	4.1	0.4
DRD	470	0	3	1.6	-0.5	462	0	5	0	8.6	0.2
EDW	64	2	11	1.5	-0.3	49	0	12	0	10.7	1.8
EEZ	128	2	13	2.2	-0.1	105	0	10	0	7.2	0.4
EIA	341	1	56	1.9	-0.1	305	0	100	0	19.2	6.4
ELY	325	0	4	1.3	0.3	297	0	4	0	5.1	0.5

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				BIAS
		PG	PR	RMS	BIAS		PG	PR	PC	RMS	
EVA	276	0	3	1.5	0.0	276	0	6	0	9.5	-0.6
FCA	223	2	5	1.4	0.1	180	0	6	0	8.7	0.6
FDX	867	0	33	1.3	0.2	748	0	34	0	7.4	0.2
FGE	53	0	0	1.2	-0.4	48	0	0	0	3.7	0.4
FGI	312	0	1	1.3	-0.4	283	0	1	0	3.3	0.3
FGL	110	0	5	1.1	0.2	109	0	6	0	4.2	1.0
FGN	28	0	0	1.2	0.1	27	0	0	0	4.3	1.2
FGS	460	0	5	1.2	0.2	430	0	5	0	3.7	0.7
FGZ	122	0	1	1.1	-0.2	121	0	1	0	3.5	0.9
FIN	227	0	6	1.3	0.2	163	0	7	0	6.3	-0.3
FJI	870	1	36	1.8	0.6	867	0	34	0	8.0	0.3
FOM	153	0	29	1.8	-0.6	152	0	29	0	4.9	0.4
FWI	563	1	6	1.6	-0.6	543	0	6	0	8.0	0.2
GCO	98	3	15	2.0	0.0	88	0	11	0	9.5	-0.2
GEC	539	1	25	1.7	-0.1	500	0	26	0	7.6	0.4
GES	31	0	6	2.4	0.5	26	0	4	0	5.6	1.6
GLO	36	11	50	1.9	0.3	37	0	49	0	9.3	0.4
GOJ	210	0	3	1.5	0.4	170	0	2	0	3.2	0.7
GRL	79	0	0	1.0	-0.1	73	0	0	0	3.5	0.6
GTI	129	0	5	1.9	0.4	94	0	3	0	7.2	0.8
GVA	52	0	4	1.1	0.2	48	0	4	0	3.4	0.1
GVB	106	0	4	1.1	0.1	93	0	1	0	3.3	0.4
GVF	112	0	1	1.3	-0.7	99	0	0	0	3.5	0.2
GVG	79	0	4	1.2	-0.7	70	0	3	0	2.9	0.6
GVH	95	0	2	1.1	-0.3	71	0	1	0	3.0	0.7
GVL	47	0	2	1.4	-0.5	44	0	2	0	3.5	0.6
GVR	175	0	2	1.3	0.1	160	0	3	0	3.7	0.2
GVT	67	0	1	1.2	-0.4	63	0	2	0	3.4	0.9
GVW	94	0	0	1.2	-0.3	79	0	0	0	3.4	0.2
GVX	71	0	1	1.3	-0.1	66	0	2	0	3.4	0.4
GWV	130	0	3	1.0	-0.1	119	0	3	0	3.2	0.8
HAL	3088	0	14	1.6	0.4	3069	0	14	0	6.4	0.0
HBI	235	0	3	1.2	-0.4	222	0	3	0	3.7	0.9
HBJ	144	0	4	1.3	-0.5	128	0	5	0	3.6	0.7
IBE	4402	0	3	1.5	-0.1	4349	0	5	0	8.1	0.1
ICE	1014	0	3	1.4	0.0	529	0	2	0	4.5	0.9
ISR	51	2	4	1.3	-0.5	26	4	4	0	6.7	0.3
IWD	683	2	5	1.8	-0.3	680	0	3	0	7.8	0.3
JAL	692	1	6	1.6	0.0	689	0	7	0	8.3	-0.3
JAZ	924	0	3	1.4	0.6	921	1	6	0	7.9	-0.1
JST	520	1	28	1.5	-0.3	519	0	27	0	5.2	0.1
KAC	116	0	2	1.2	0.4	110	0	2	0	3.5	0.4
KAL	1167	1	3	1.5	0.1	1164	0	4	0	7.5	-0.3
KIW	28	0	43	0.6	-0.2	28	0	43	0	5.3	1.0
KLM	1675	0	9	1.5	-0.1	1311	0	12	0	7.6	0.1
LAN	782	0	2	1.5	0.1	779	0	2	0	4.5	0.3
LCO	44	0	20	2.4	-0.6	35	3	14	0	9.5	0.9
LNE	262	1	3	1.6	0.3	260	0	3	0	7.8	0.0
LNR	394	0	44	1.2	-0.1	350	0	44	0	3.3	0.7
LOT	406	0	3	1.8	-0.9	251	0	3	0	6.6	0.8
LTU	691	1	4	1.4	-0.3	591	0	4	0	7.0	0.9
LVG	203	0	7	1.6	0.0	182	0	5	0	6.8	0.6
MAS	449	0	5	1.4	0.2	426	0	5	0	6.1	0.1
MON	73	0	7	1.9	-0.2	51	0	6	0	7.4	1.0
MPD	502	1	6	1.5	0.2	484	0	7	0	7.8	0.1
MPH	230	0	6	1.8	-0.8	186	0	9	0	10.7	-0.7
MSR	104	0	1	1.2	0.4	97	0	1	0	3.4	0.7
MXJ	310	1	8	1.6	-0.2	165	0	5	0	5.7	0.6
MYT	286	0	5	1.6	-0.1	221	0	11	0	10.6	0.2

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND		RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC		
NAO	94	2	6	1.9	0.1	78	1	5	0	7.4	0.6
NCA	491	0	1	1.5	0.1	402	0	2	0	7.2	-0.4
NOS	179	1	8	1.8	0.3	130	0	7	0	9.2	-0.9
NWA	8657	0	8	1.4	0.1	8374	0	8	0	7.3	0.2
NZL	6456	0	9	1.1	-0.1	6456	0	9	0	4.4	0.1
OAE	390	0	7	1.4	-0.2	259	0	9	0	7.9	0.2
OOM	128	2	9	1.4	0.3	94	0	10	0	8.1	1.4
OYK	556	0	50	1.1	-0.1	487	0	51	0	3.0	0.7
PAC	366	0	3	1.6	-0.2	327	1	4	0	7.3	-0.1
PAL	1788	0	3	1.5	-0.3	1763	0	6	0	8.4	0.3
PBI	1295	0	44	1.4	-0.1	1296	1	45	0	6.9	0.1
PLM	451	0	2	1.8	0.8	399	0	4	0	8.4	0.0
QFA	4277	0	48	1.2	0.2	4260	0	48	0	6.8	-0.5
RAM	523	1	4	1.7	0.0	421	0	9	0	10.7	0.0
RCH	373	1	100	3.5	-0.6	281	0	100	0	11.9	1.1
RJA	41	5	5	1.2	-0.1	27	0	7	0	9.2	-0.3
RRR	36	6	36	1.7	-0.1	35	0	34	0	8.9	1.7
RZO	785	1	5	1.8	-0.6	758	0	5	0	9.0	0.5
SAA	57	0	16	1.4	-0.8	62	2	21	0	8.1	0.9
SAS	1202	0	62	1.2	-0.1	1093	0	62	0	3.6	0.7
SER	482	0	56	1.2	0.2	414	0	55	0	3.1	0.8
SEU	283	3	10	1.8	-0.3	248	0	10	0	8.4	0.9
SIA	754	0	3	1.3	0.1	743	0	3	0	4.6	0.2
SLM	167	1	4	1.6	-0.5	165	0	5	0	8.8	0.0
SOO	48	0	0	1.5	0.7	49	0	6	0	10.2	0.7
SQC	284	0	1	1.2	0.0	272	0	1	0	4.2	0.0
SVH	572	0	7	1.2	0.5	572	0	7	0	6.0	-0.8
SWR	1814	0	5	1.2	-0.4	1724	0	5	0	4.2	0.7
TAM	73	3	44	2.3	0.0	73	1	47	0	14.4	3.6
TAP	942	1	2	1.5	-0.4	873	0	3	0	7.0	0.3
TCV	45	2	100	3.6	3.2	45	2	11	0	10.4	0.8
TCX	311	0	3	1.1	0.1	274	0	3	0	4.4	0.8
TFL	184	0	7	1.6	-0.3	132	0	9	0	12.0	0.4
THA	227	0	11	1.2	0.3	227	0	11	0	5.3	0.0
THT	1684	0	25	1.1	0.1	1622	0	25	0	8.0	-3.0
TOM	417	1	8	1.9	-0.2	396	0	7	0	8.6	-0.3
TSC	243	0	3	1.6	-0.8	156	0	4	0	6.1	0.3
TUB	92	1	7	1.6	-0.1	58	0	9	0	10.7	-1.0
UAE	1106	0	7	1.3	0.3	1067	0	7	0	4.3	0.2
UAL	10669	0	21	1.2	-0.1	10657	0	22	0	5.6	0.6
UPS	1474	1	49	1.6	-0.1	998	0	48	0	6.8	0.2
USA	1844	0	3	1.2	0.0	1753	0	3	0	3.9	0.5
UTY	48	6	44	0.8	-0.2	48	0	40	0	4.1	0.6
VIR	2807	0	3	1.3	-0.1	2600	0	2	0	4.1	0.4
VRG	93	1	51	2.3	0.7	94	0	54	0	14.7	0.7
VVJ	20	0	10	1.0	-0.2	27	0	7	0	12.4	1.6
VVR	31	13	16	0.9	-0.2	31	0	10	0	5.7	-0.4
WHT	119	1	4	1.6	0.1	114	0	3	0	6.5	0.2
WJA	21	0	0	1.0	-0.2	27	0	7	0	7.1	0.5
WOA	300	1	8	1.6	0.0	230	0	11	0	9.6	-0.1
XLA	127	2	17	2.8	0.1	110	1	11	0	8.6	0.3
ZKN	141	0	1	1.4	-0.2	126	0	1	0	3.6	0.6
ZKO	435	0	29	1.4	-0.5	440	0	30	0	5.5	0.0
ZKS	46	0	0	1.0	-0.3	36	0	0	0	3.7	1.4
4XE	24	0	8	1.2	0.4	21	0	10	0	3.2	0.8
9VS	88	0	5	1.4	0.0	82	0	4	0	4.3	0.4

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	PR			PC	RMS		
AU	55199	0	19	1.2	0.4	55201	0	19	0	5.0	0.5
B-	15470	0	61	1.6	0.7	10979	1	71	0	7.2	0.3
EU	316501	0	28	1.2	0.2	316501	0	28	0	4.2	0.2
HK	7558	0	8	1.1	0.1	7558	0	8	0	5.1	0.3
HZ	25	0	0	1.1	0.4	24	0	0	0	4.2	0.1
JP	61599	0	65	1.4	0.7	61599	0	64	0	5.1	0.2
MK	3188	0	5	2.0	1.8	3187	0	4	0	6.6	1.3
SA	4004	0	9	1.1	0.3	4004	0	9	0	5.0	0.3
UA	357939	0	98	1.1	-0.2	357408	0	98	0	4.7	0.6

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	PR			PC	RMS		
N	6699	0	13	1.4	-0.1	6006	0	13	0	4.0	0.5

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	PR			PC	RMS		
USAMDAR	1203730	0	67	1.2	0.3	1203720	0	67	0	5.1	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

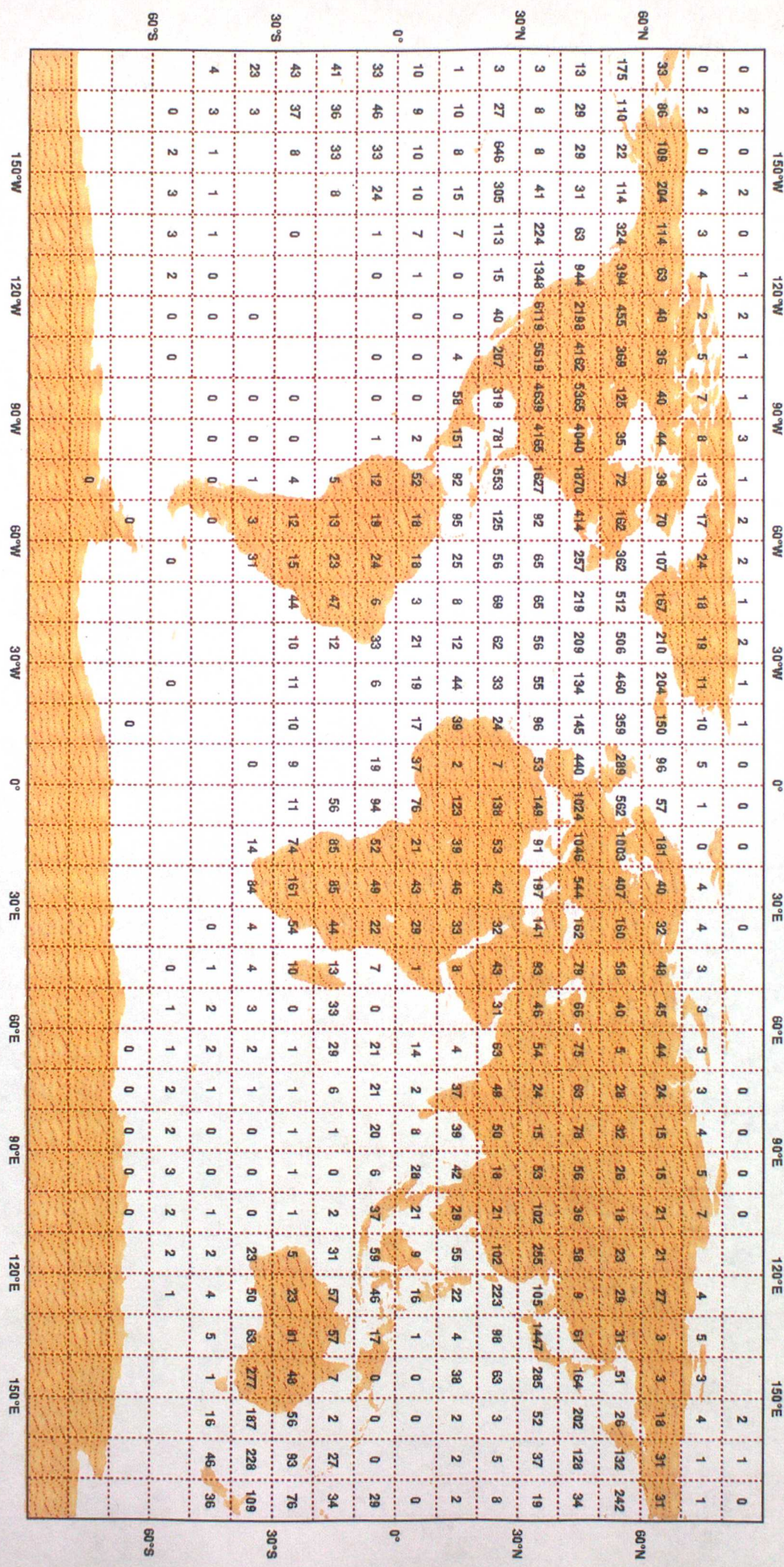
Period	:One calendar month.
Data monitored	:Statistics for each airline carrier.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from UKMO global model.
Observation times	:All hours combined.
Level(s) monitored	:1000.0 – 300.1 hPa
Elements monitored	:TEMP in °C ; WIND in m s ⁻¹
Parameters monitored	
:N REP.	:Number of observations received excluding duplicates.
:PG	:Percentage of observations with gross errors.
:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
:PC	:Percentage of observations with calm winds.
:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.
GROSS ERROR LIMITS	:10.0 °C ; 60 m s ⁻¹ Vector Wind
SELECTION CRITERIA	:N REP ≥ 20

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	BIAS			PR	PC	RMS	
AAL	52	4	12	1.3	-0.3	43	0	14	0	7.7	0.6
ACA	53	6	21	1.7	-0.3	47	0	23	0	12.7	-2.2
AFR	66	2	18	1.3	-0.4	61	0	16	0	9.8	0.2
AFZ	45094	0	67	1.2	-0.4	45094	0	67	0	4.0	0.2
ANZ	317	1	16	1.2	0.2	323	0	16	0	7.3	0.2
AXF	30	0	57	1.1	0.7	30	0	57	0	7.6	0.7
CFC	82	2	9	1.9	0.3	70	0	9	0	6.7	0.5
CKS	39	0	8	1.5	0.0	28	0	11	0	7.4	-0.3
CNJ	751879	0	85	1.8	0.7	751879	0	85	0	4.9	0.0
DAL	71	0	27	1.5	0.6	67	0	28	0	4.5	2.0
FDX	452	1	29	1.6	0.1	237	0	29	0	8.6	0.1
GAF	59	0	0	0.7	0.1	26	0	4	0	6.6	0.5
GCO	63	0	13	1.4	0.5	55	0	13	0	11.1	1.6
GEC	176	0	17	1.8	0.0	167	0	16	0	9.5	0.6
HAL	167	0	6	1.4	0.0	167	0	7	0	5.9	1.4
ICE	46	0	0	1.2	-0.3	20	0	0	0	5.4	0.1
JAL	40	0	3	1.1	0.1	40	0	3	0	8.4	1.3
KAL	53	0	0	1.2	0.0	53	0	4	0	8.1	-1.0
KIW	47	6	55	2.3	0.8	47	0	51	0	7.4	0.2
LAN	59	0	3	1.0	-0.1	61	0	3	0	4.1	0.5
MAS	27	0	7	1.2	0.4	27	0	7	0	7.4	0.3
NCA	62	0	0	1.4	0.3	57	0	2	0	7.2	-0.7
NWA	113	0	2	1.1	0.0	109	0	3	0	7.1	-1.7
NZL	24507	0	56	0.8	0.1	24506	0	56	0	3.9	0.1
OCE	24	8	8	1.9	1.4	22	0	0	0	5.5	1.5
PAL	58	3	3	1.3	-0.7	58	0	2	0	8.4	1.3
QFA	68	1	40	0.9	0.1	68	0	37	0	5.3	0.2
RRR	59	10	27	3.6	2.4	56	0	5	0	7.8	-0.2
SIA	73	0	1	1.0	0.4	72	0	3	0	6.9	0.9
SVH	25061	0	60	1.6	0.9	25061	0	60	0	4.8	0.8
THA	26	0	23	1.5	1.2	26	0	23	0	3.5	0.6
THT	203	0	50	1.1	0.1	155	0	50	0	6.8	-3.0
TOM	38	0	5	1.2	-0.5	34	0	3	0	6.7	0.4
UAE	104	0	5	1.0	0.7	104	0	5	0	4.2	-0.3
UAL	132	6	32	1.6	0.0	145	0	29	0	8.8	0.6
UPS	219	1	59	1.3	-0.3	121	0	57	0	6.4	0.8
WOA	110	0	5	1.4	-0.1	71	0	31	0	14.8	2.7

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	BIAS			PR	PC	RMS	
AU	62326	0	63	1.0	0.5	62476	0	63	0	3.7	0.2
B-	63674	0	73	1.3	0.2	56584	0	76	0	5.0	0.3
EU	711983	0	67	0.9	0.1	707006	0	66	0	3.7	0.0
HK	22756	0	87	1.2	0.0	22756	0	87	0	4.2	0.4
JP	287941	0	81	1.3	0.3	287941	0	81	0	4.2	0.6
MK	3157	0	51	1.3	0.8	3157	0	51	0	4.4	1.1
SA	3518	0	72	1.1	0.1	3518	0	72	0	4.1	0.2
UA	284471	0	98	1.0	-0.2	284036	0	98	0	3.9	0.4

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			BIAS
		PG	PR	RMS	BIAS			PR	PC	RMS	
N	60	2	12	1.1	0.1	54	0	11	0	4.4	0.9
USAMDAR	1943709	0	81	1.2	0.1	1938702	0	82	0	4.0	0.3

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. MAY 2006
 Observations with O-B vector difference greater than 60 ms-1 excluded
 Global average number of observations in 24 hours = 72024



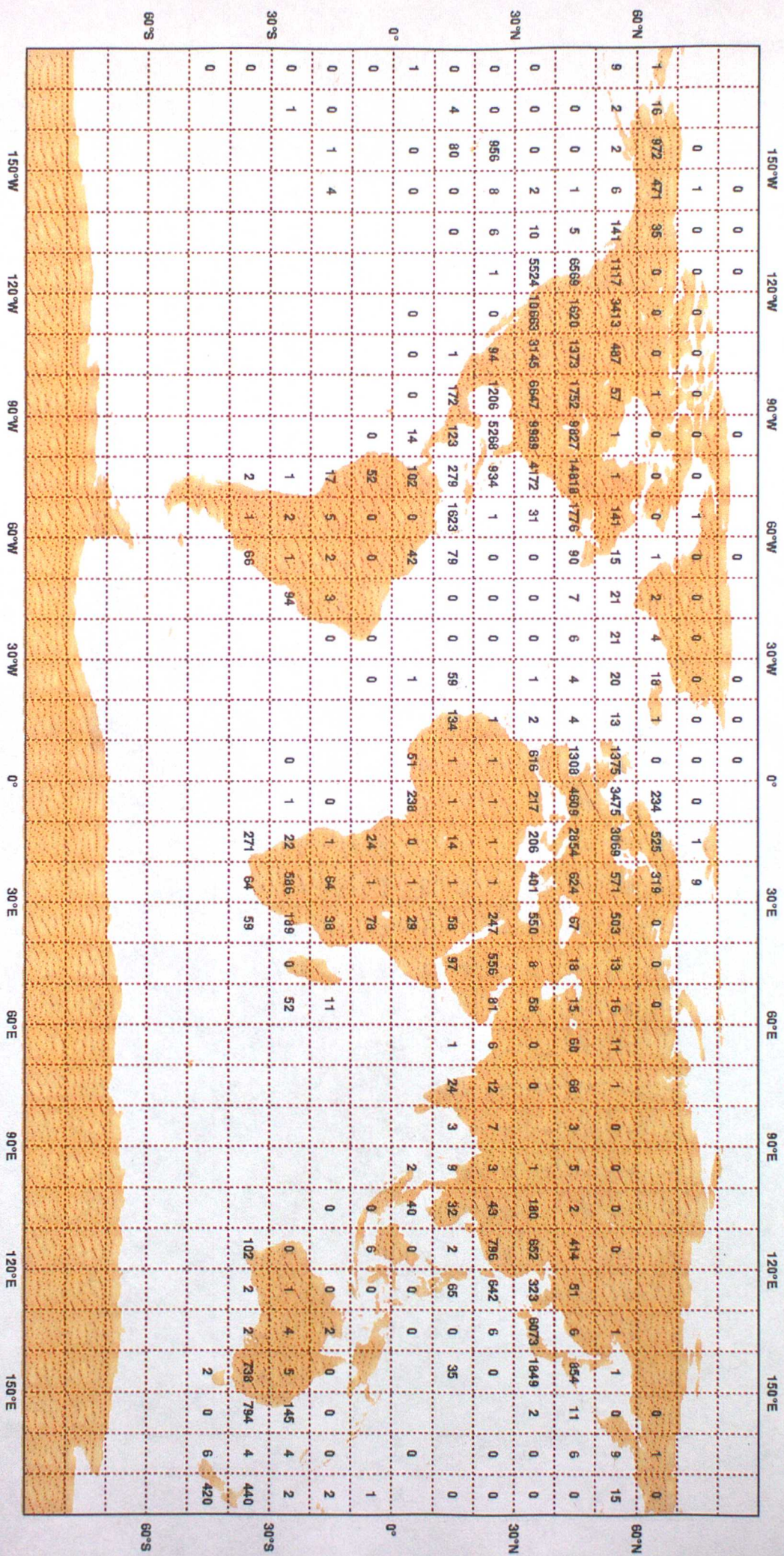


Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. MAY 2006
 Observations with O-B vector difference greater than 60 ms⁻¹ excluded
 Arrows are plotted where greater than 30 obs are present

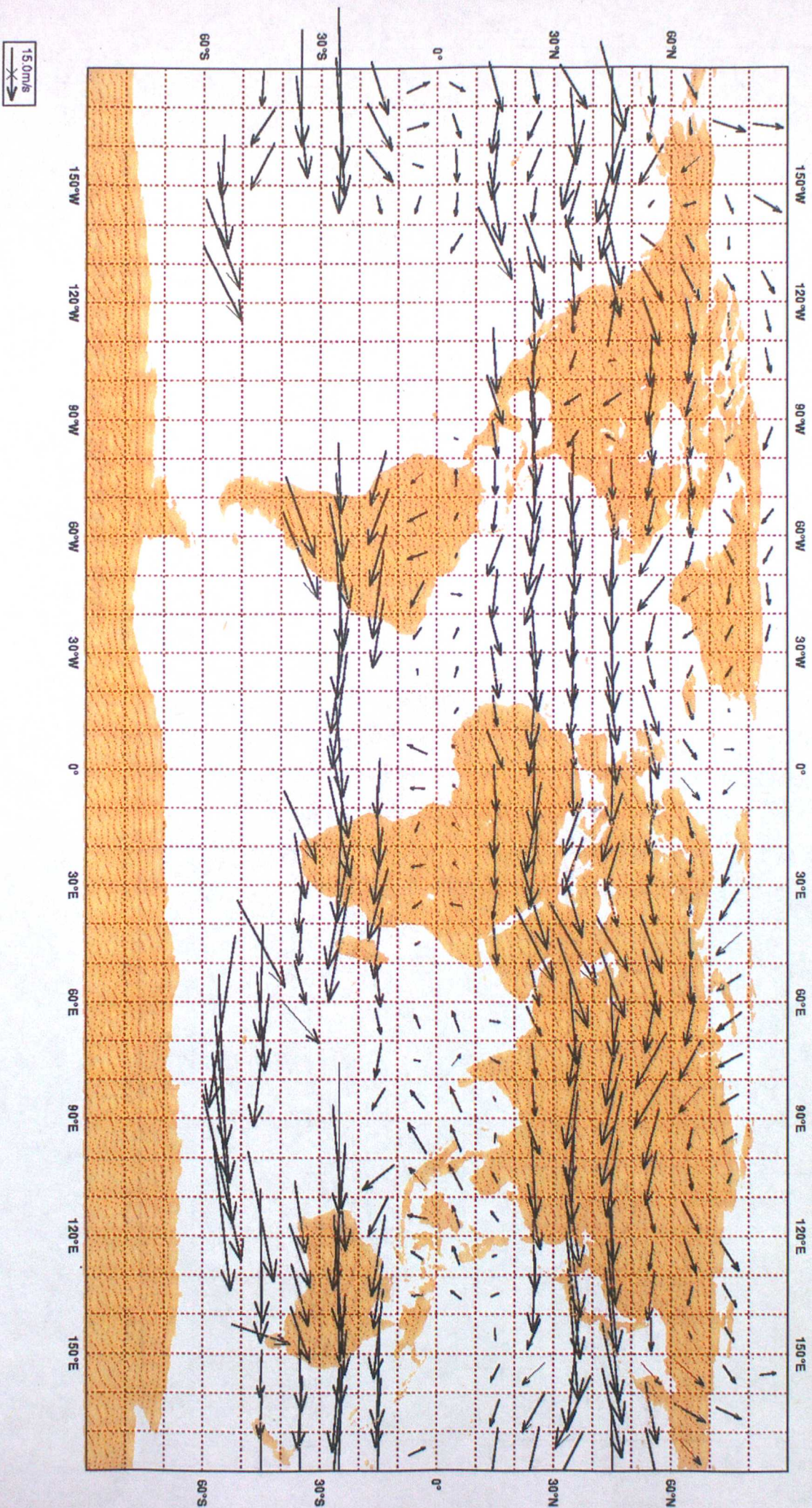


Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. MAY 2006
Observations with O-B vector difference greater than 60 ms⁻¹ excluded
Arrows are plotted where greater than 30 obs are present

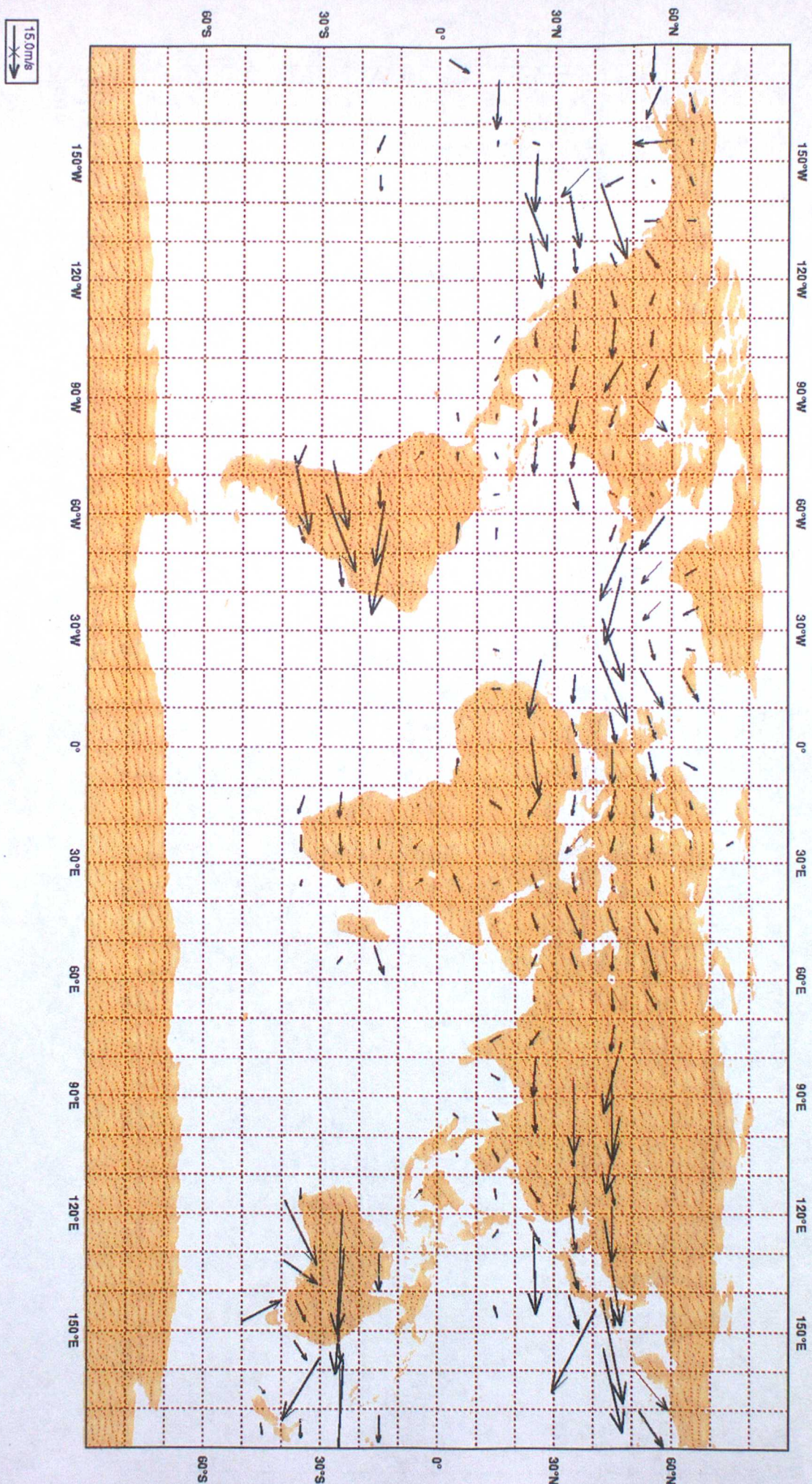


Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. MAY 2006
Observations with O-B vector difference greater than 60 ms⁻¹ excluded
Arrows are plotted where greater than 30 obs are present

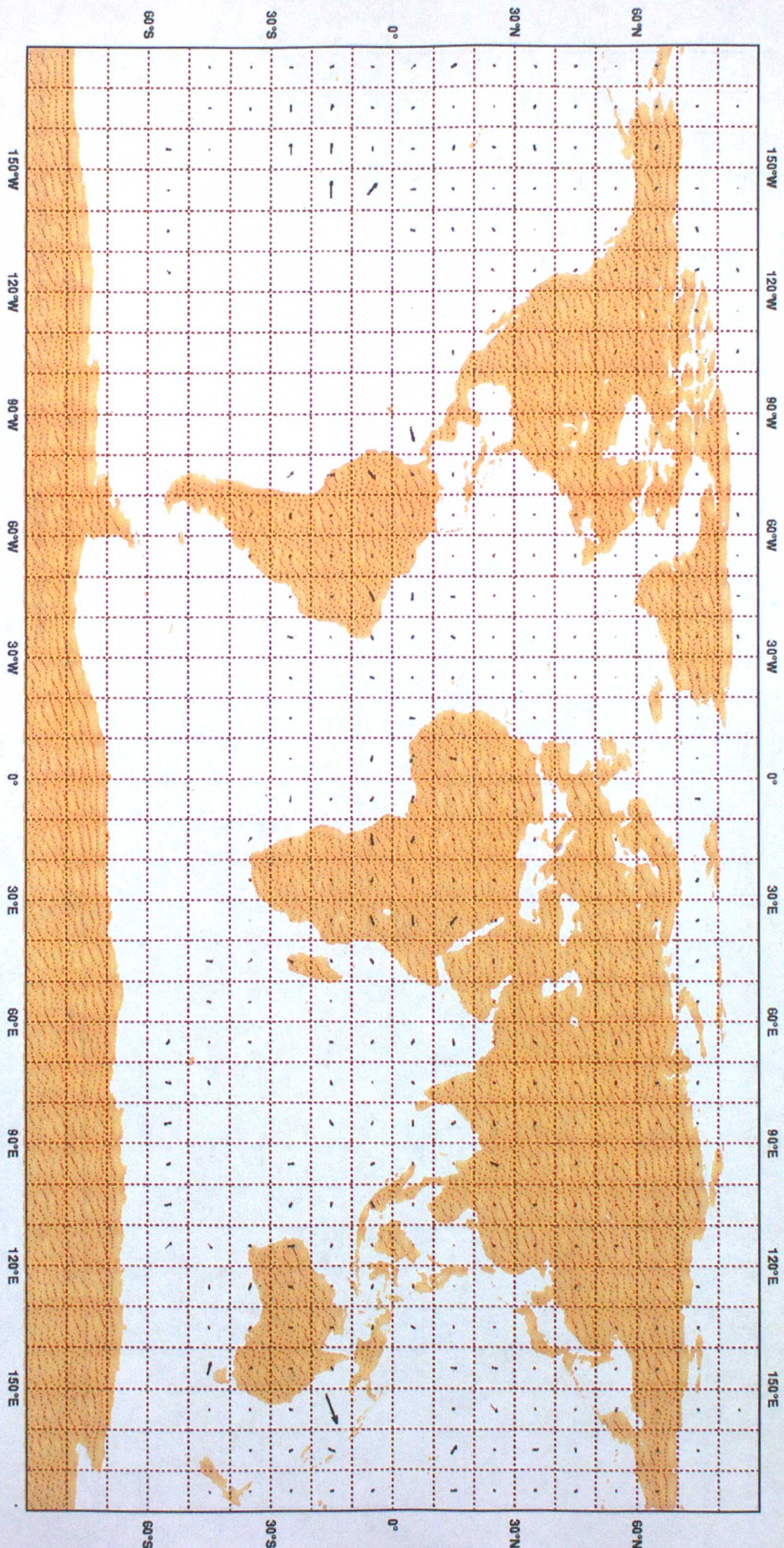


Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. MAY 2006
Observations with O-B vector difference greater than 60 ms⁻¹ excluded
Arrows are plotted where greater than 30 obs are present

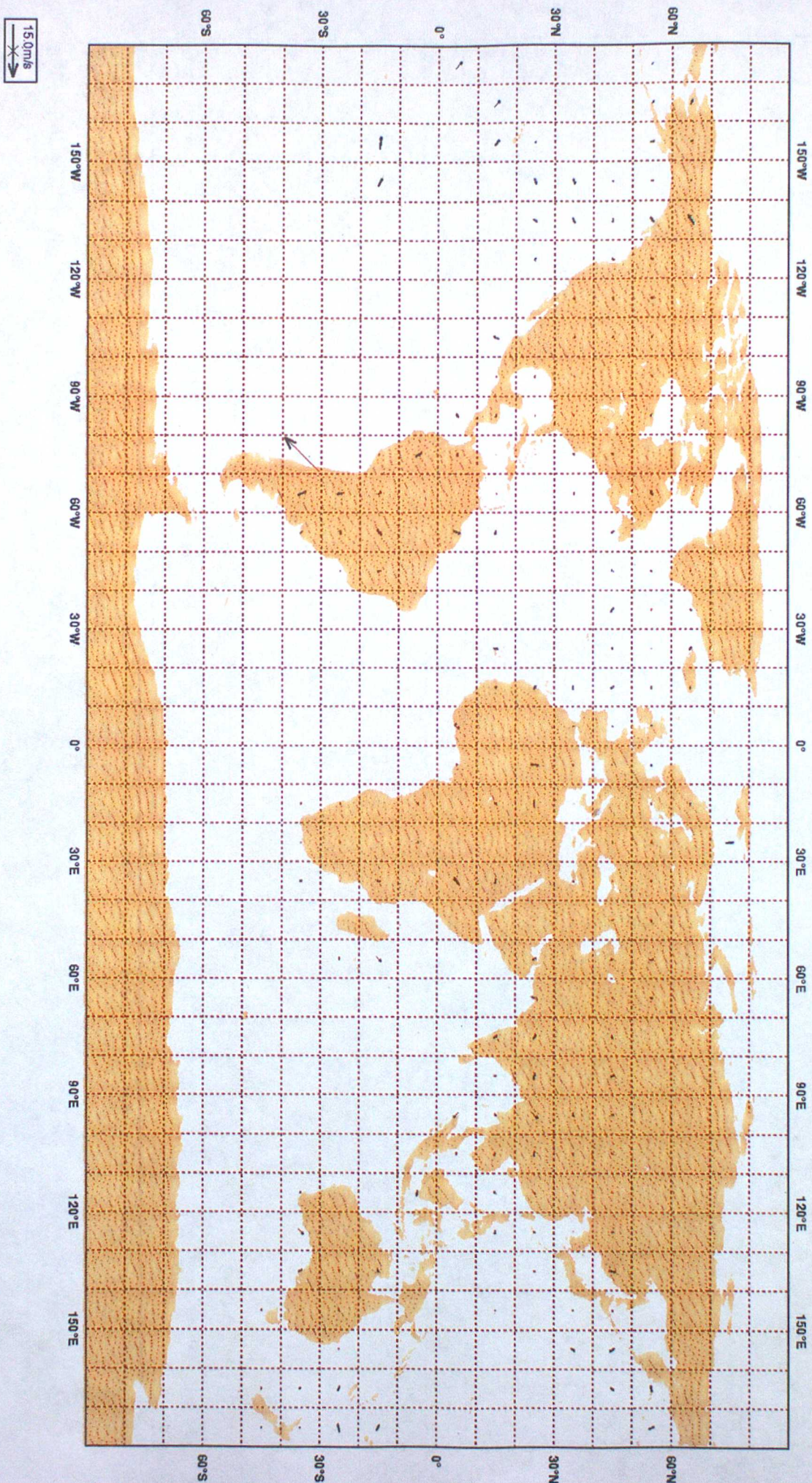
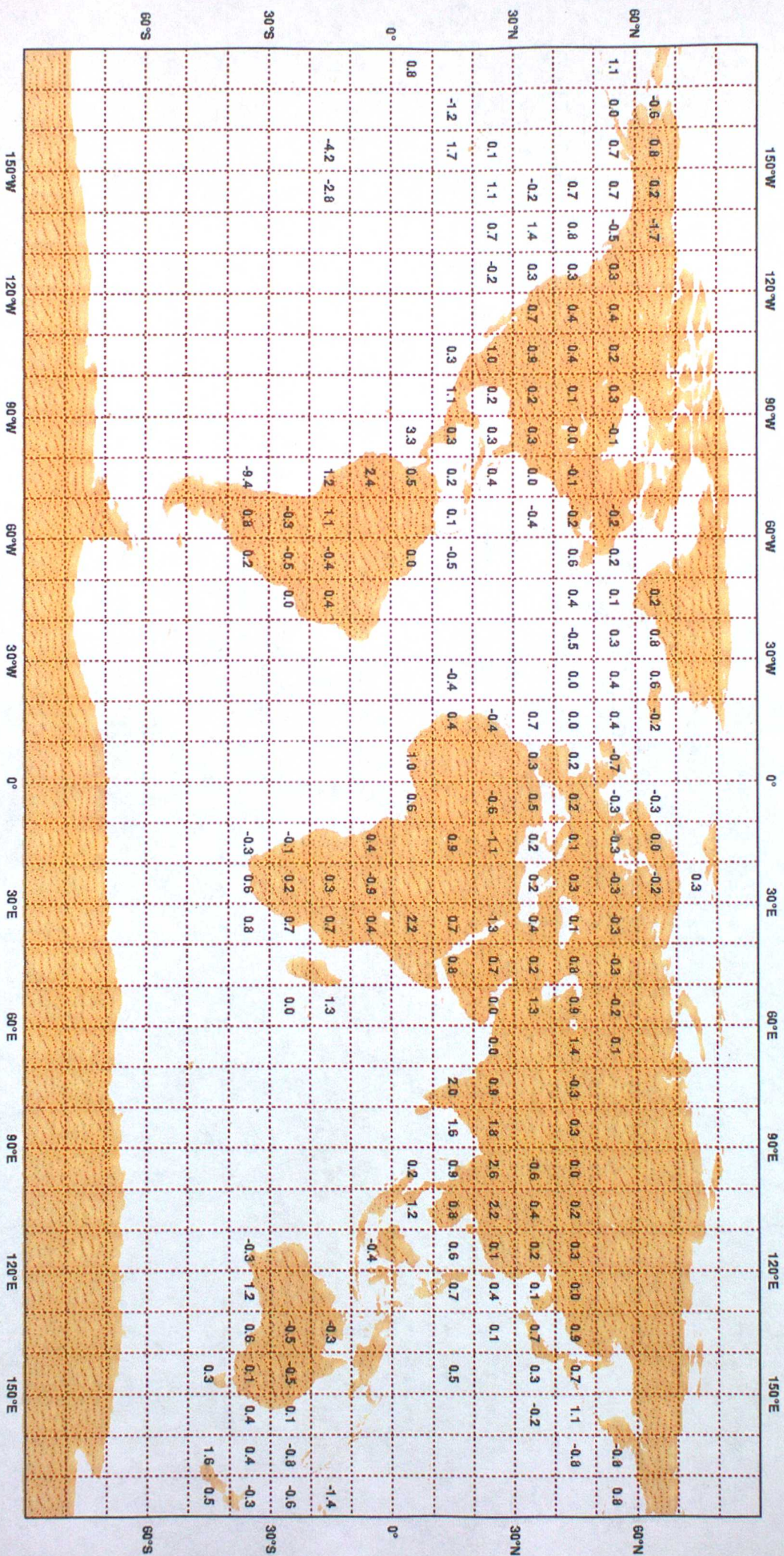
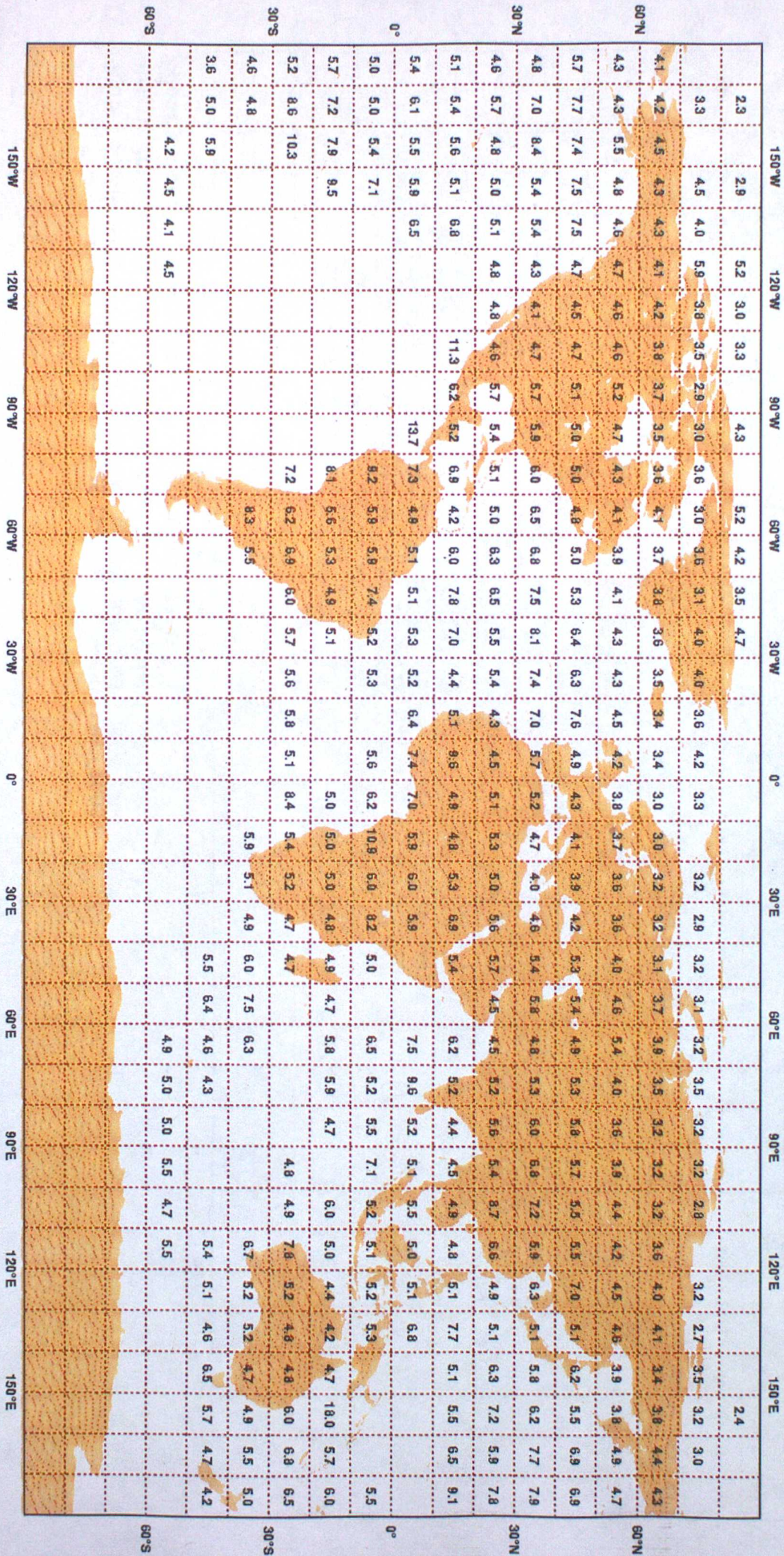


Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms^{-1}). MAY 2006
Observations with O-B vector difference greater than 60 ms^{-1} excluded
Values are printed where greater than 30 obs are present



Values are printed where greater than 30 obs are present



150°E



TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG		NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
22820	12	Z	100	62/	34	10	0	26.6	148.4	150.8	7
28698	12	Z	100	55/	73	17	0	33.7	116.0	120.8	4
31168	00	Z	70	56/	138	13	4	74.7	261.5	271.9	8
34731	12	Z	70	47/	40	20	0	68.1	166.4	179.8	8
42027	00	Z	150	34/	75	20	0	46.3	-108.2	117.7	5
42101	12	Z	30	30/	76	12	2	85.2	238.0	252.8	4
42182	00	Z	100	29/	77	24	0	154.1	-75.7	171.7	9
42182	12	Z	50	29/	77	13	2	120.2	173.4	211.0	9
42314	00	Z	100	27/	95	7	3	65.7	-234.4	243.5	8
42339	00	Z	200	26/	73	19	0	63.7	-108.1	125.5	7
42361	00	Z	250	26/	78	11	1	110.8	-47.8	120.7	4
42369	00	Z	1000	27/	81	7	18	6.4	-92.3	92.5	8
42379	00	Z	1000	27/	83	20	0	24.1	-52.3	57.6	5
42397	00	Z	200	27/	88	26	4	56.3	-147.5	157.9	7
42397	12	Z	150	27/	88	14	2	118.8	-154.1	194.6	7
42410	00	Z	200	26/	92	25	4	61.4	-122.6	137.1	10
42410	12	Z	200	26/	92	28	1	73.4	-130.9	150.0	10
42492	00	Z	300	26/	85	12	0	44.8	-70.6	83.6	5
42492	12	Z	100	26/	85	9	1	47.5	-176.7	182.9	7
42647	00	Z	50	23/	73	14	1	139.4	211.1	252.9	7
42647	12	Z	30	23/	73	4	7	29.5	396.5	397.6	11
42701	00	Z	150	23/	85	30	0	102.4	-53.8	115.7	9
42701	12	Z	150	23/	85	25	0	93.0	-57.3	109.3	6
42724	00	Z	50	24/	91	12	1	183.1	76.8	198.6	9
42724	12	Z	200	24/	91	18	1	115.6	-82.8	142.2	7
42809	00	Z	50	23/	88	14	0	119.1	111.1	162.8	6
42809	12	Z	100	23/	88	20	1	112.9	-139.9	179.8	9
42867	00	Z	200	21/	79	14	0	49.6	-108.0	118.8	7
42874	12	Z	150	21/	82	10	1	123.4	-66.1	140.0	4
42971	00	Z	200	20/	86	30	0	55.2	-81.4	98.3	7
42971	12	Z	1000	20/	86	31	0	21.4	-35.5	41.5	8
43003	00	Z	200	19/	73	19	2	98.1	-164.6	191.6	11
43003	12	Z	1000	19/	73	26	2	10.0	-50.5	51.5	11
43014	00	Z	200	20/	75	10	0	69.0	-107.6	127.8	4
43041	00	Z	150	19/	82	14	1	85.4	-96.0	128.5	5
43128	00	Z	100	17/	78	18	1	84.6	-159.9	181.0	8
43150	00	Z	1000	18/	83	27	0	21.6	-38.5	44.2	10
43150	12	Z	1000	18/	83	25	1	20.0	-57.8	61.1	10
43185	00	Z	150	16/	81	10	1	93.5	-69.8	116.7	4
43192	00	Z	1000	15/	74	25	1	9.9	-60.7	61.5	4
43279	00	Z	200	13/	80	28	1	68.8	-111.9	131.3	7
43279	12	Z	150	13/	80	24	0	89.1	-88.1	125.3	7
43285	00	Z	150	13/	75	18	1	78.4	-105.7	131.6	6
43295	00	Z	100	13/	78	15	0	118.6	-40.8	125.4	4
43333	00	Z	30	12/	93	18	0	102.6	211.6	235.2	6
43333	12	Z	200	12/	93	27	1	67.6	-114.3	132.8	5
43353	00	Z	1000	10/	76	13	16	3.9	-94.4	94.5	4
43369	00	Z	150	8/	73	16	2	108.8	-135.8	174.0	7
43371	00	Z	100	8/	77	7	8	114.4	-176.7	210.5	8
43371	12	Z	30	8/	77	11	1	196.6	161.5	254.4	5
47058	00	Z	100	39/	126	15	0	88.1	98.6	132.2	4
48615	12	Z	250	6/	102	2	0	62.0	99.0	116.8	7
96163	00	Z	1000	-1/	100	5	20	63.1	15.4	65.0	11
96163	12	Z	1000	-1/	100	5	19	58.8	-10.8	59.8	11
96935	00	Z	850	-7/	113	24	0	32.3	-19.5	37.7	9
96935	12	Z	1000	-7/	113	24	2	38.4	-22.2	44.3	12
97180	00	Z	1000	-5/	120	27	1	16.1	-49.7	52.3	11
97180	12	Z	1000	-5/	120	22	3	8.3	-61.4	62.0	9
97560	00	Z	70	-1/	136	10	0	204.4	49.8	210.4	10
97560	12	Z	300	-1/	136	12	1	78.7	-6.3	78.9	6

TABLE 6

**MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: May 06**

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored		
	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	: ≥ 10 observations and $\geq 15 \text{ m s}^{-1}$ RMS vector wind.	
	ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN	

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
07761	12	V	300	42/ 9	27	0	7	-4.1	3.7	19.7	2
40265	00	V	100	32/ 36	26	0	15	0.0	4.1	15.2	1
47058	00	V	300	39/ 126	11	0	100	-25.4	-0.2	45.2	4
48565	00	V	150	8/ 98	26	0	96	-0.2	9.1	17.9	2
60590	12	V	400	31/ 3	12	0	100	-12.7	1.5	16.4	1
62306	00	V	150	31/ 27	25	0	100	-3.7	-6.4	15.7	1
89009	00	V	300	-90/ 0	30	0	100	-4.7	-11.6	18.9	4
96035	00	V	100	4/ 99	10	0	100	0.7	5.6	16.3	1

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. MAY 2006
 All hours
 Global average number of observations in 24 hours = 1387

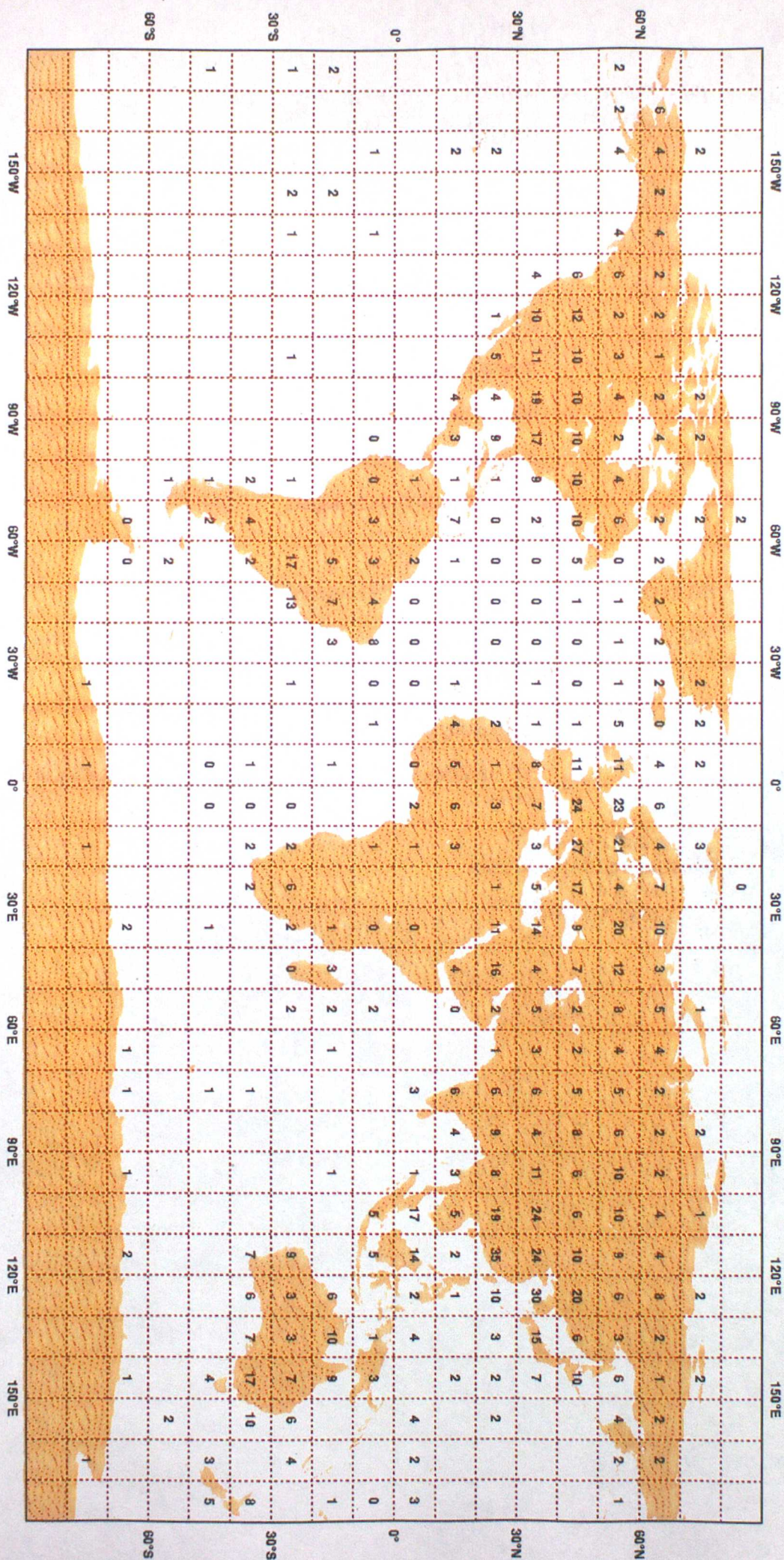


TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for radiosonde TEMPs.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from UKMO global model.
Observation times	:00 UTC and 12 UTC.
Level(s) monitored	:Standard levels between 500.0 - 150.0 hPa
Element monitored	:WIND DIRECTION in degrees
Parameters monitored	
	:NUM OBS :Average number of observations at all levels.
	:BIAS :Mean difference of observations from background values from all levels.
	:MAX SPREAD : (For observation - background values) Maximum absolute difference of SD at any level from SD at all levels
	:SD :SD of difference of observations from background values at all levels.
SELECTION CRITERIA	:NUM OBS ≥ 5 , and ABSOLUTE BIAS $\geq 10^\circ$, with SD $< 30^\circ$, and MAX SPREAD $< 10^\circ$

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
08594	12	DD	17/ -23	21	13.0	6.5	12.4
22550	12	DD	65/ 41	25	10.2	5.0	9.7
33791	12	DD	48/ 33	28	-15.3	3.8	11.7
42182	00	DD	29/ 77	22	13.9	6.1	19.9
96163	12	DD	-1/ 100	13	12.0	7.7	18.5
97014	00	DD	2/ 125	15	10.4	5.8	16.4

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: EXETER

MONTH: May 06

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7
Standard of comparison	:Background field from UKMO global model.
Selection Criteria	:number of observations > 10.
Data Extracted	:Layer 701 - 1000 hPa 401 - 700 hPa 101 - 400 hPa
	:Mean wind
	:Mean observation minus background vector wind differences
	:Mean observation minus background speed differences
	:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. MAY 2006
Global average number of observations in 24 hours = 244730

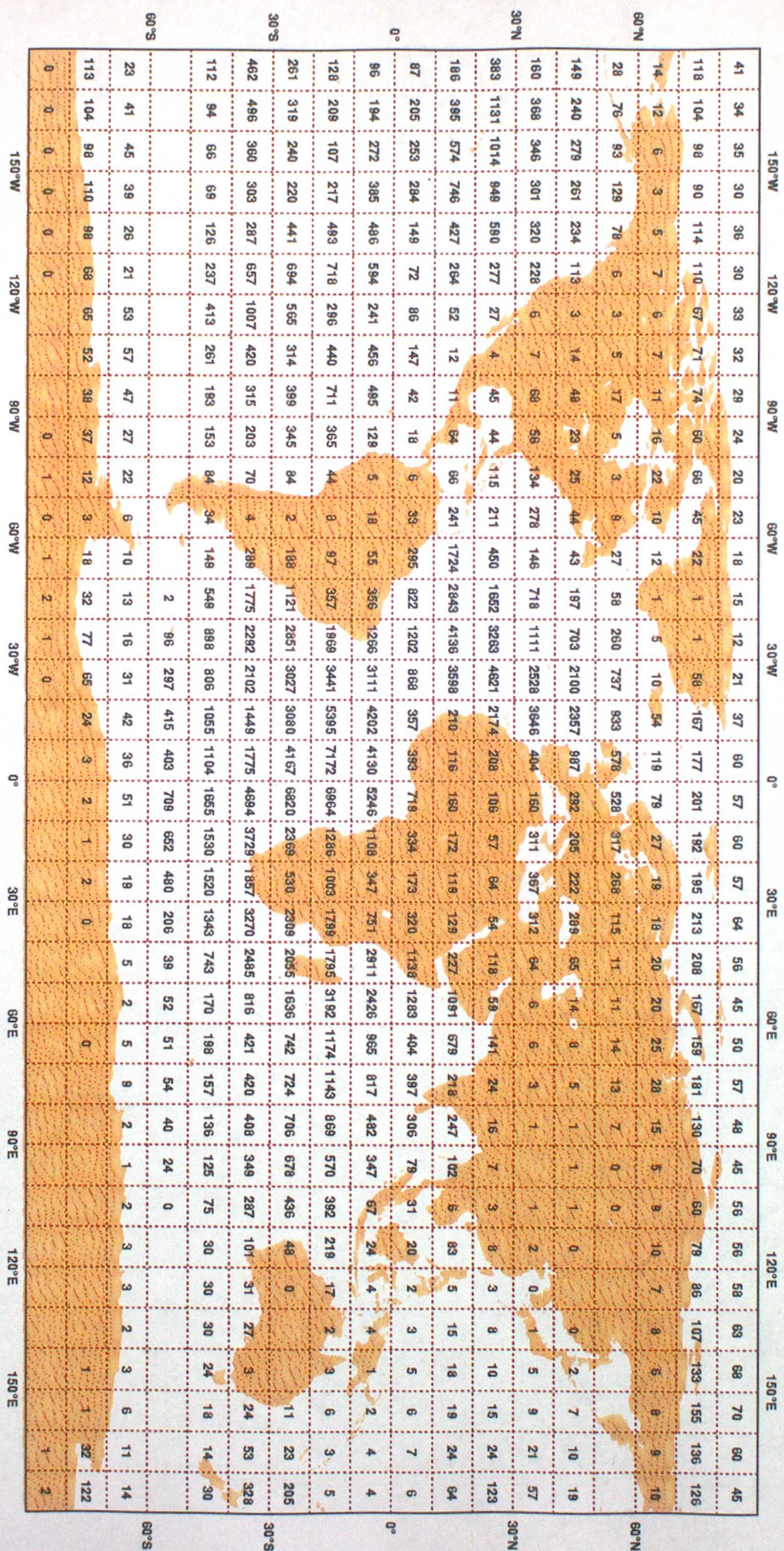


Figure 11. SATOB 701 - 1000 hPa vector mean wind. MAY 2006
All observations

Arrows are plotted where greater than 10 obs are present

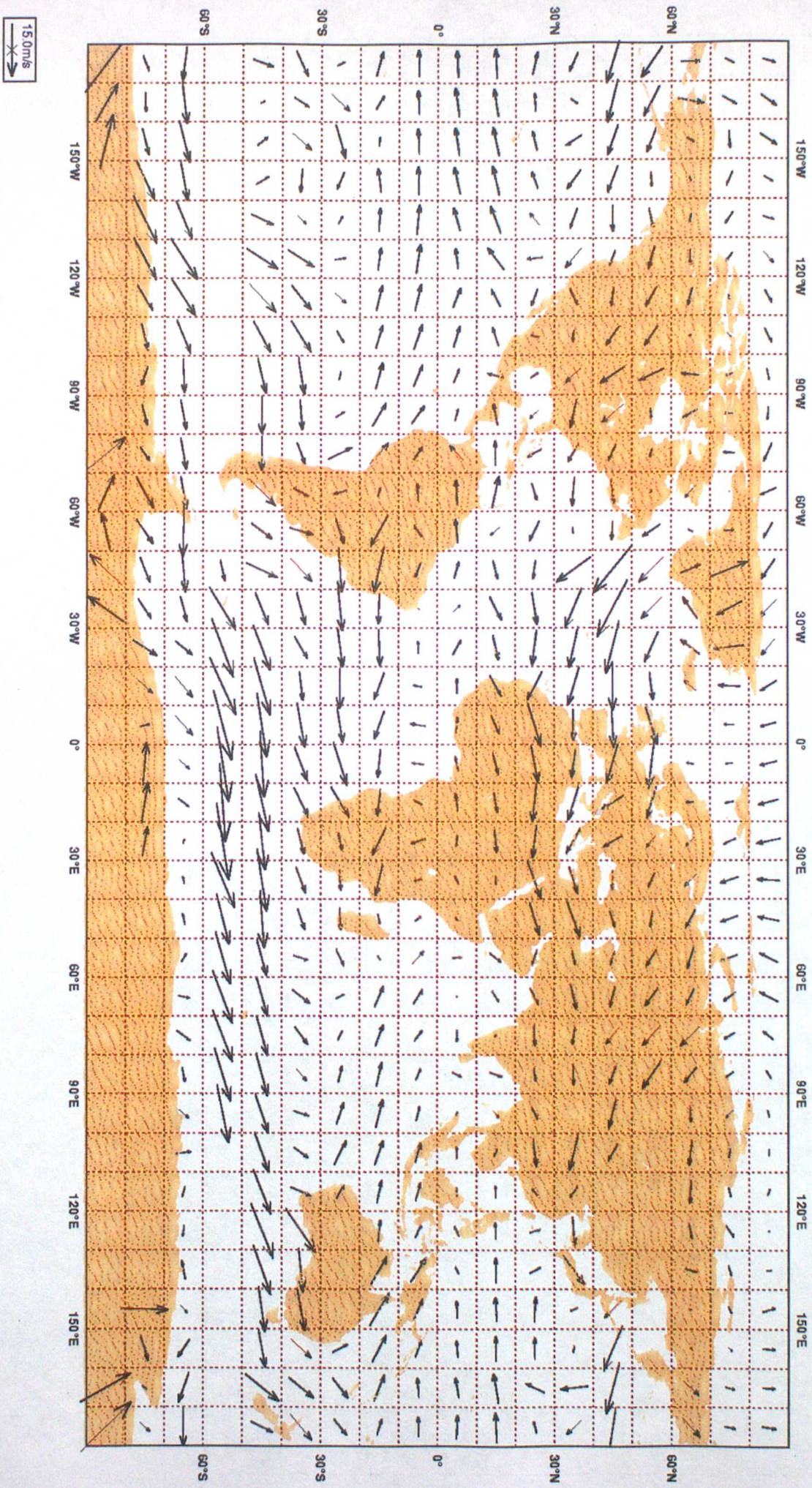


Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. MAY 2006
All observations

Arrows are plotted where greater than 10 obs are present

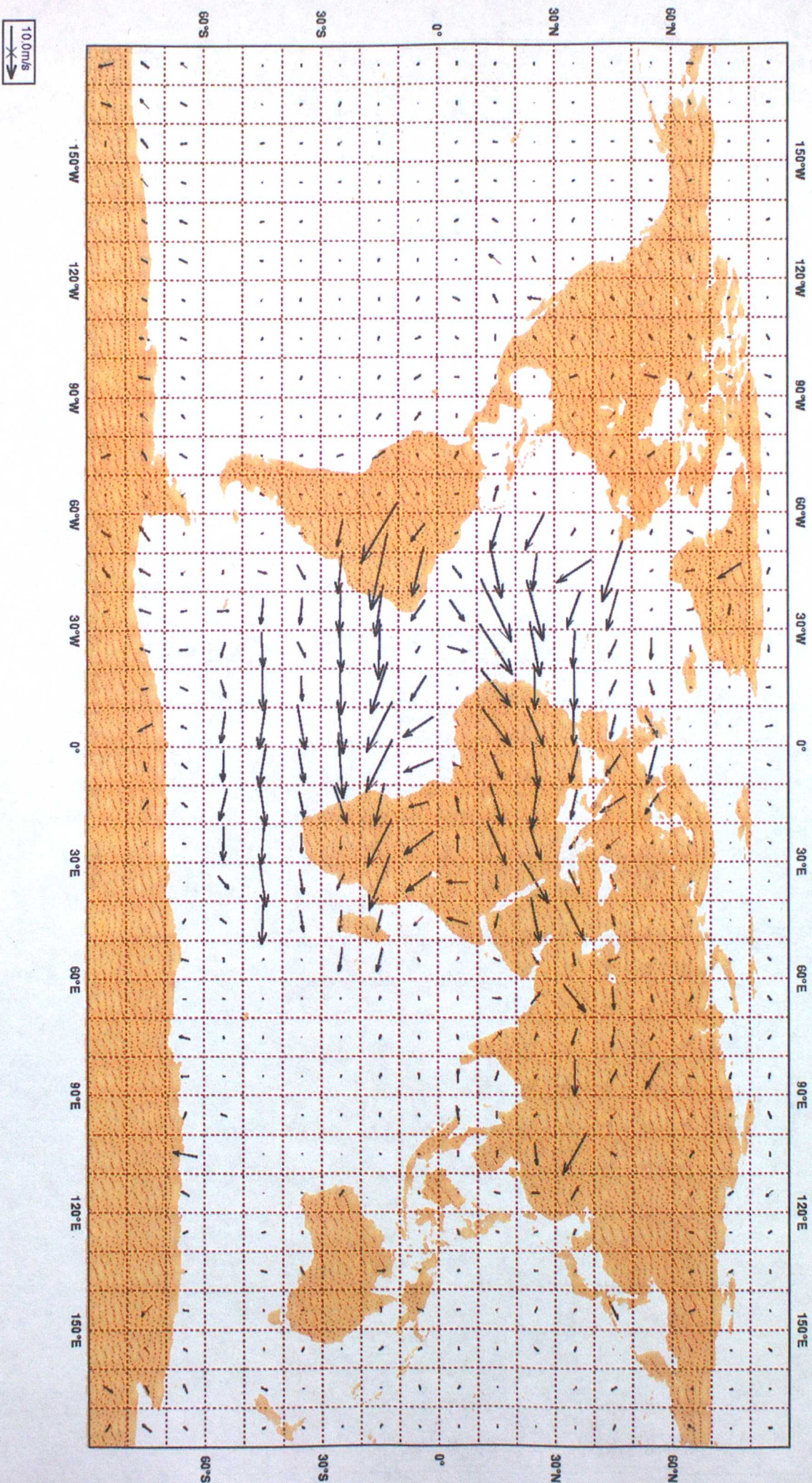


Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms⁻¹). MAY 2006
 All observations
 Values are plotted where greater than 10 obs are present

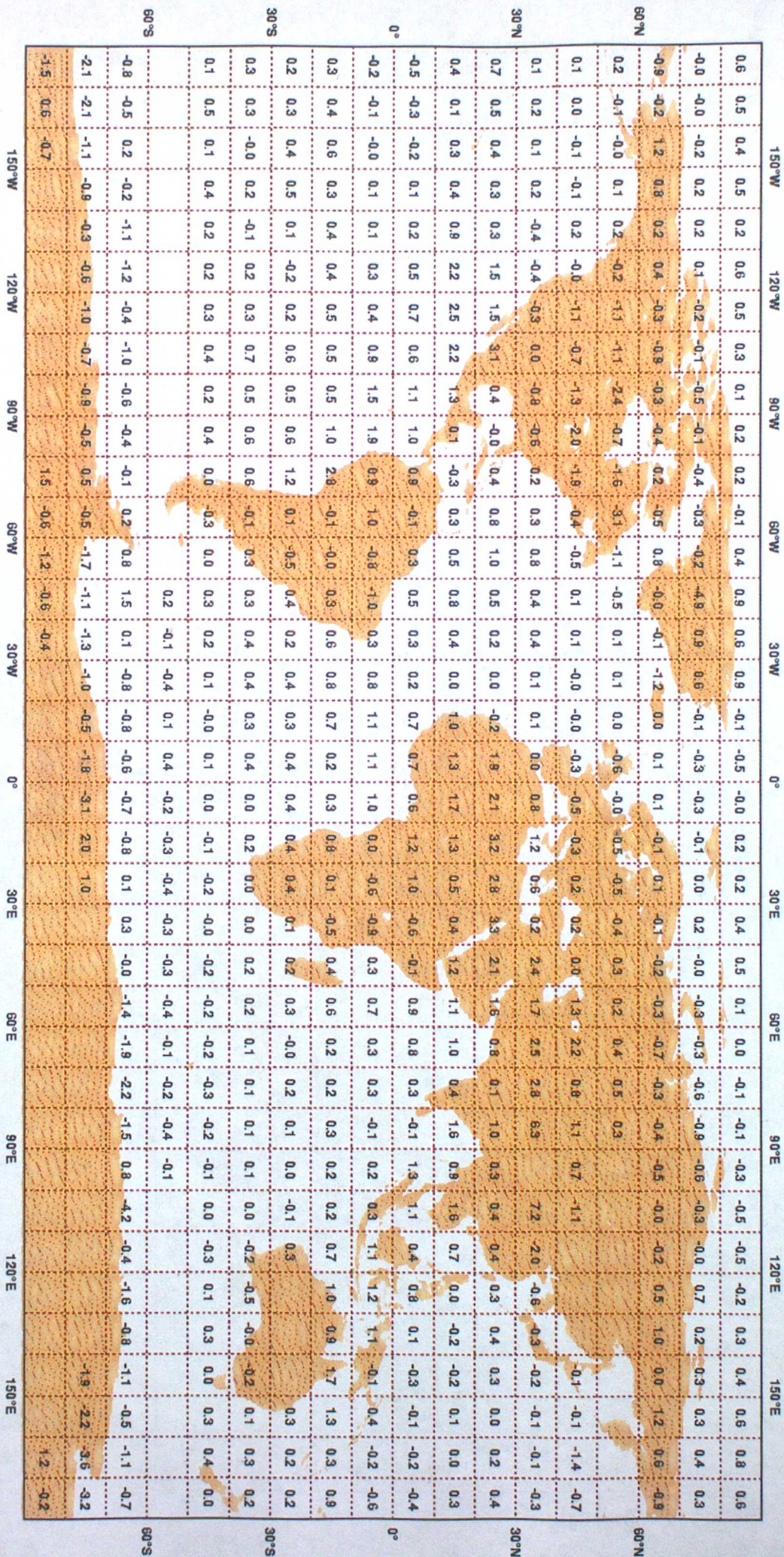


Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms⁻¹). MAY 2006
 All observations
 Values are plotted where greater than 10 obs are present

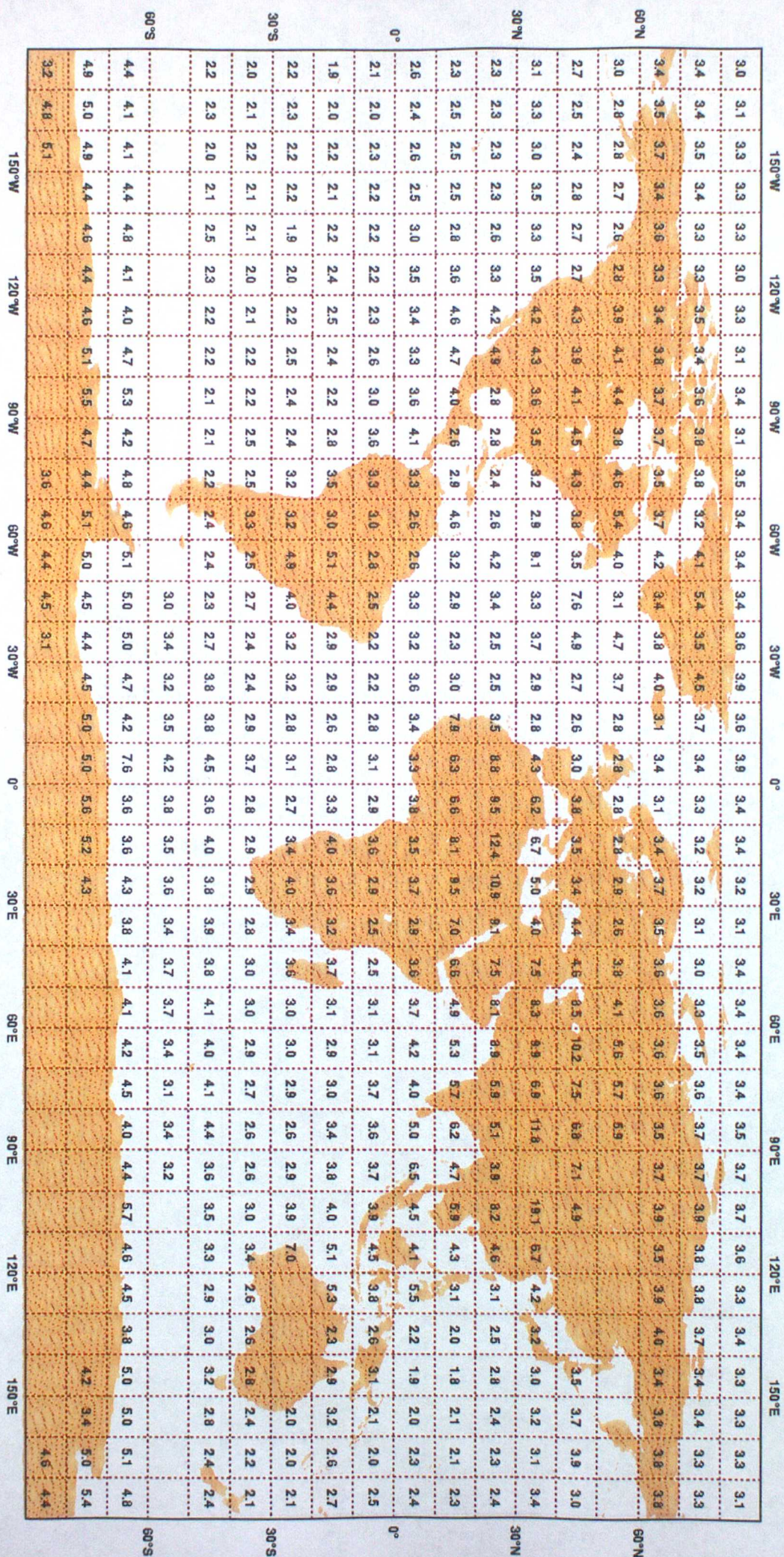


Figure 15. SATOB 401 - 700 hPa mean daily count. MAY 2006
Global average number of observations in 24 hours = 129771



Figure 16. SATOB 401 - 700 hPa vector mean wind. MAY 2006
All observations

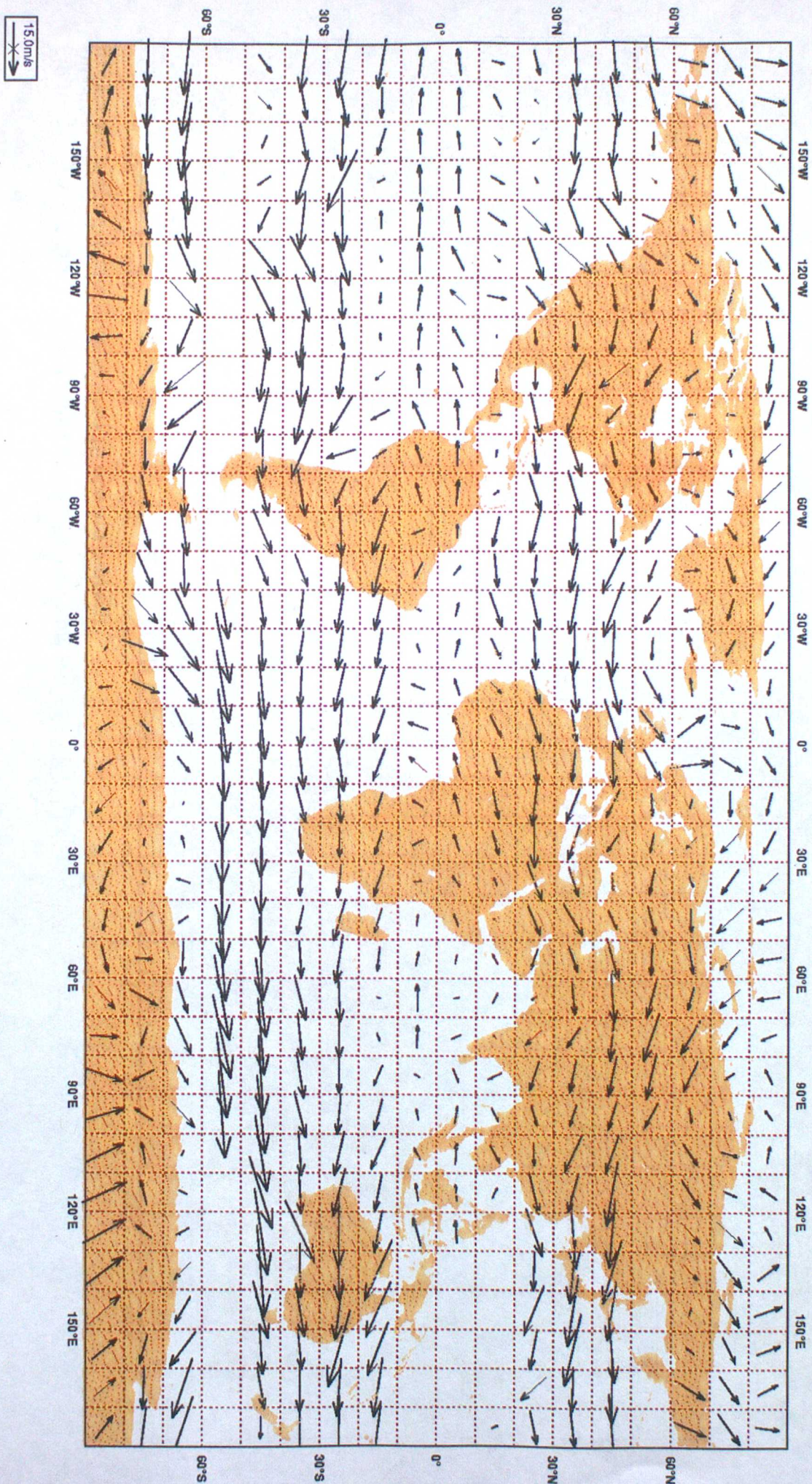


Figure 17. SATOB 401 - 700 hPa mean vector wind differences. MAY 2006
All observations

Arrows are plotted where greater than 10 obs are present

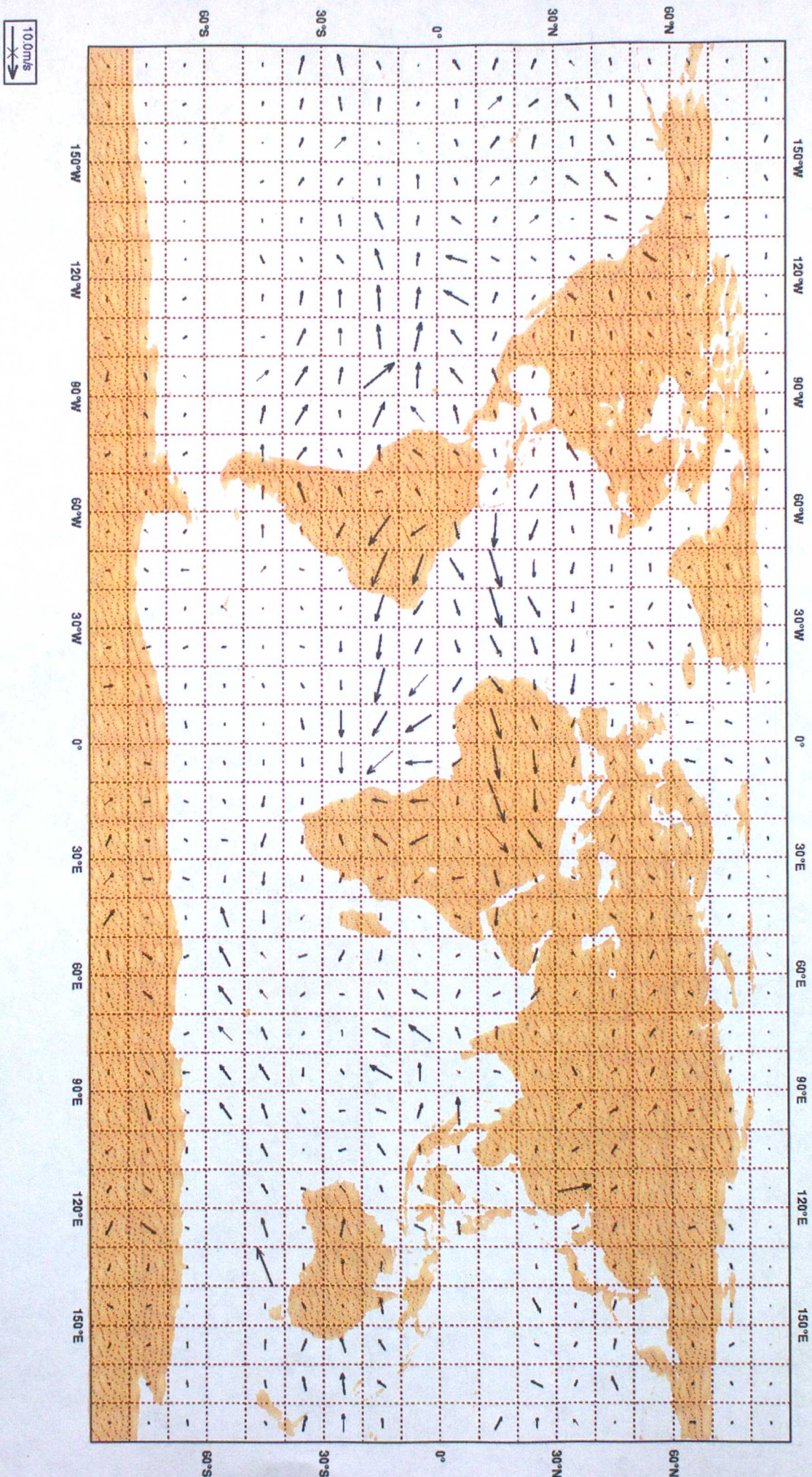


Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms⁻¹). MAY 2006
 All observations
 Values are plotted where greater than 10 obs are present



Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms⁻¹). MAY 2006
 All observations
 Values are plotted where greater than 10 obs are present



Figure 20. SATOB 101 - 400 hPa mean daily count. MAY 2006
Global average number of observations in 24 hours = 386174



Figure 21. SATOB 101 - 400 hPa vector mean wind. MAY 2006
All observations

Arrows are plotted where greater than 10 obs are present

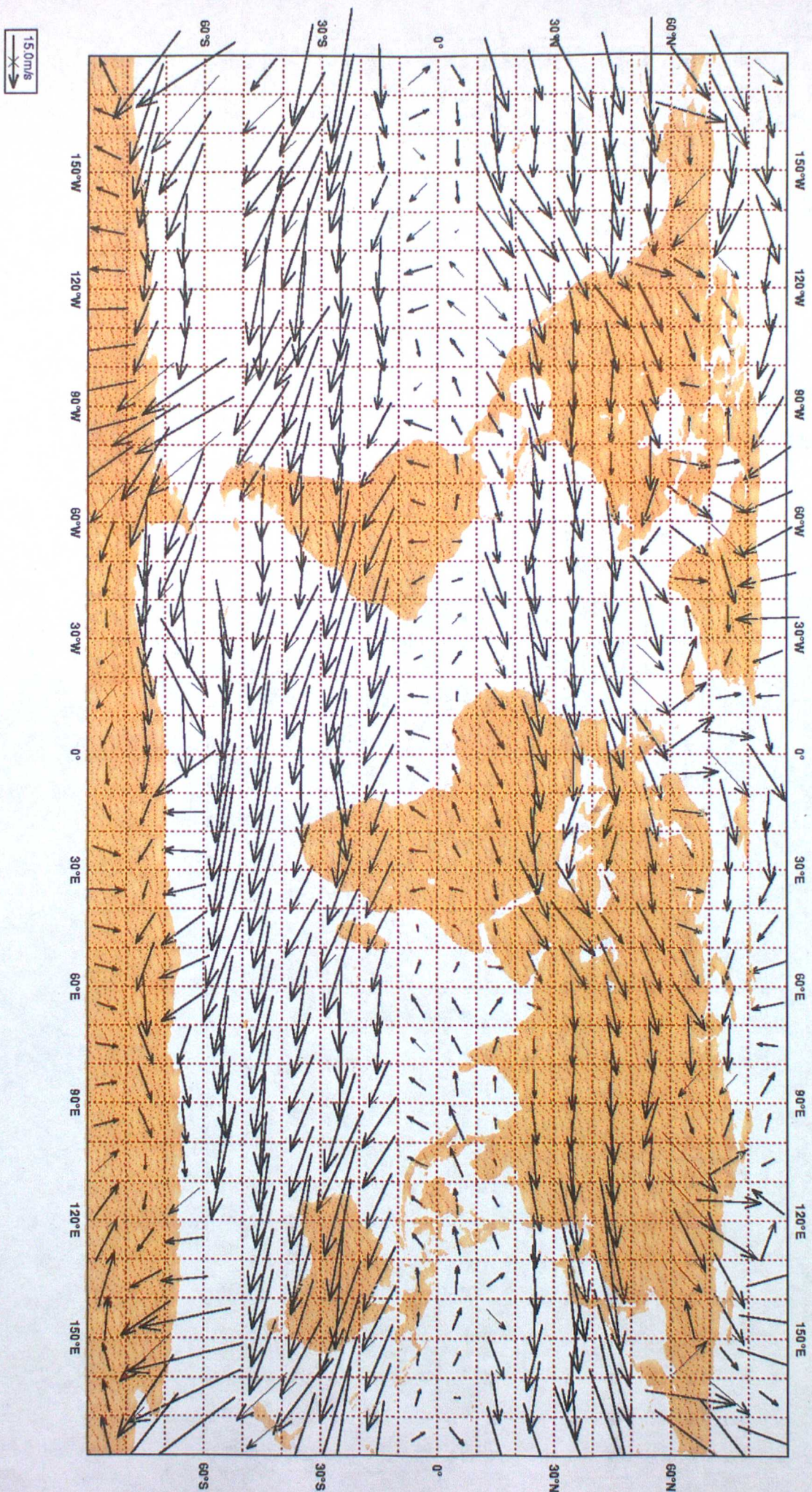


Figure 22. SATOB 101 - 400 hPa mean vector wind differences. MAY 2006
All observations

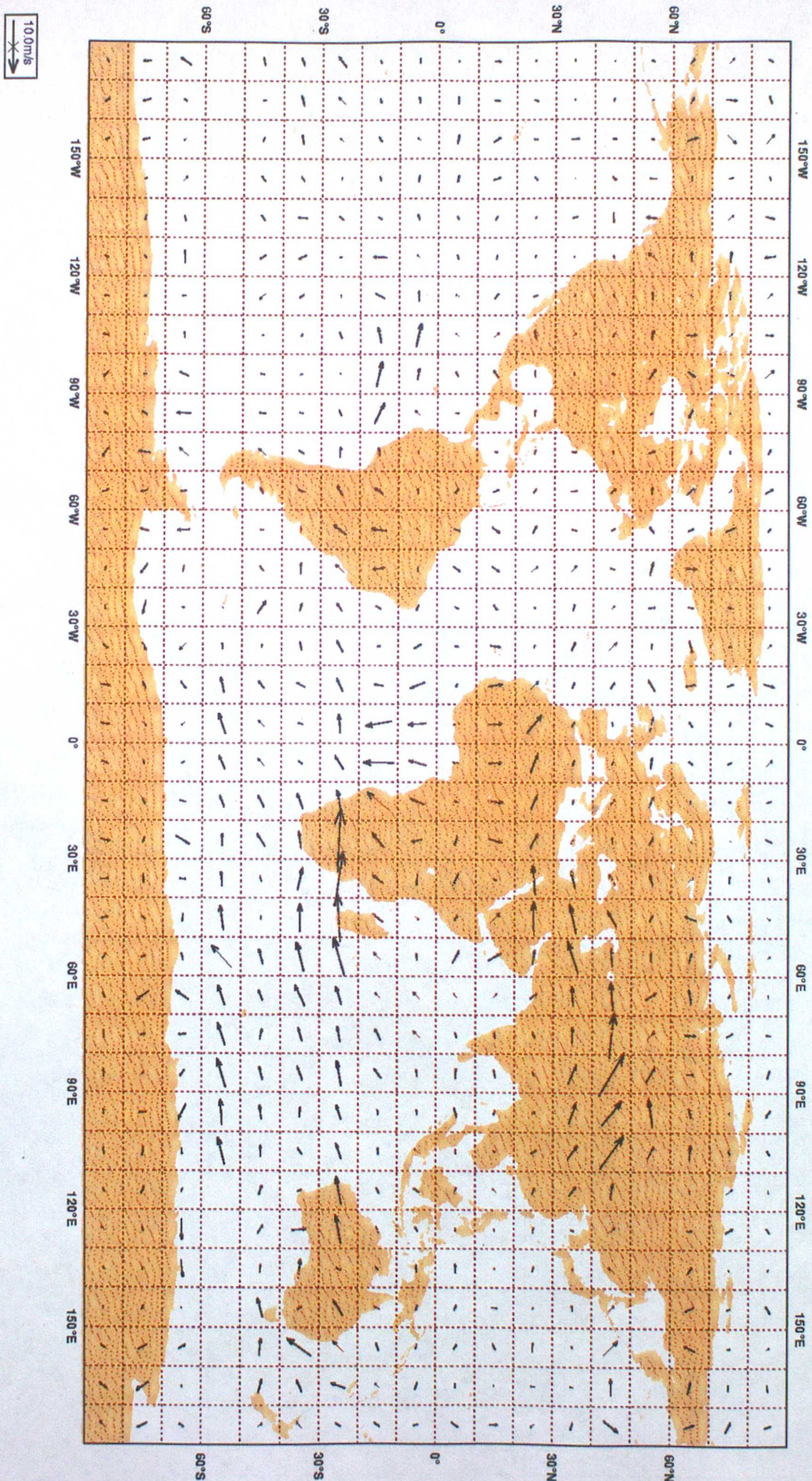


Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). MAY 2006
 All observations
 Values are plotted where greater than 10 obs are present



MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: EXETER

MONTH: May 06

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from NOAA-15, NOAA-16 and NOAA-17.

Standard of comparison :Background field from UKMO global model.

Selection Criteria :All soundings.

Data Extracted :Sounding channels (and approximate weighting function peaks, hPa)

HIRS8 (Surface)
HIRS15 (700)
HIRS11 (500-700)
HIRS4 (400)
AMSUA5 (700)
AMSUA7 (300)
AMSUA9 (100)

:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. MAY 2006
NOAA15, using all observations
Global average number of observations in 24 hours = 673365

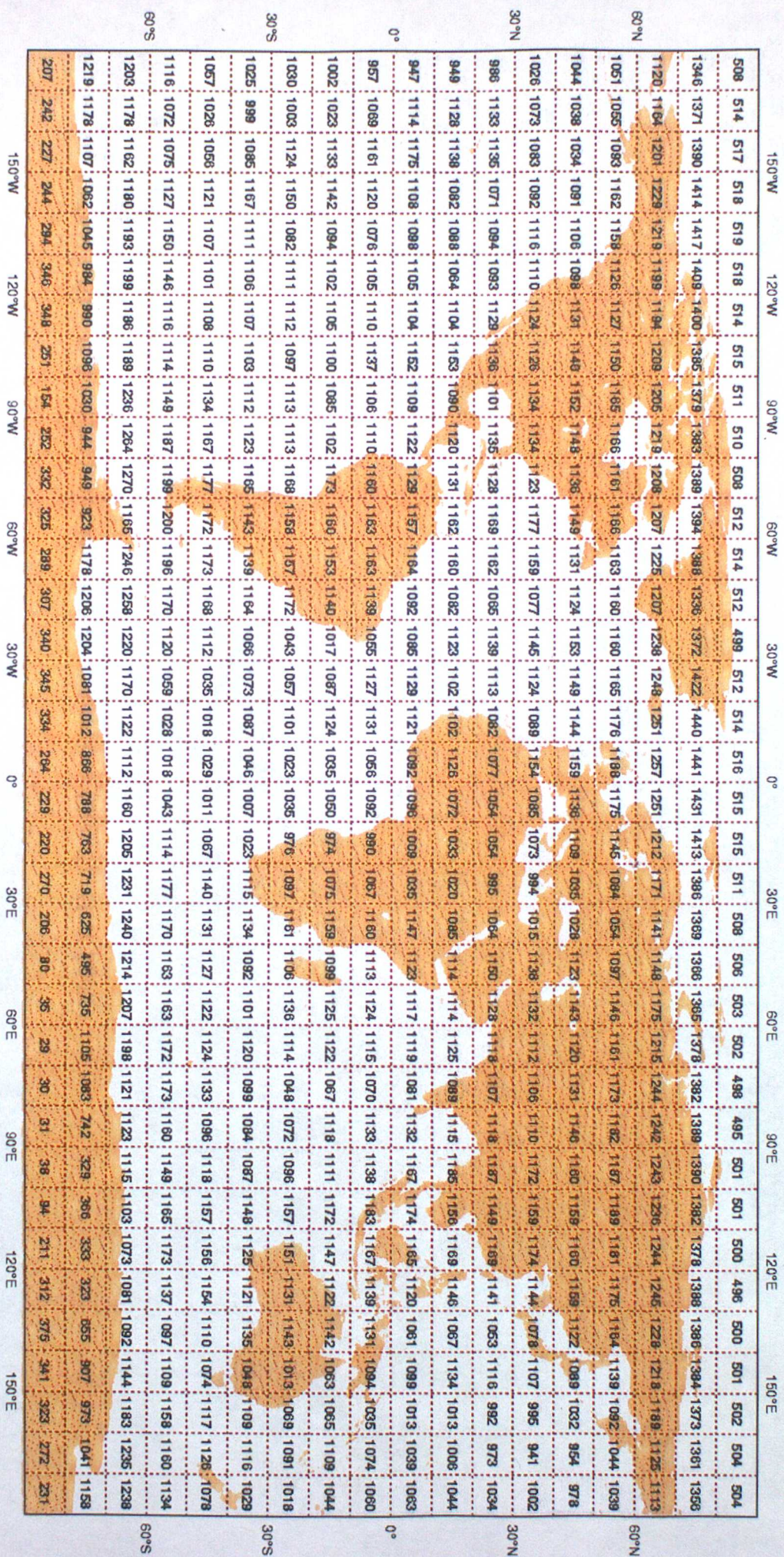


Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations

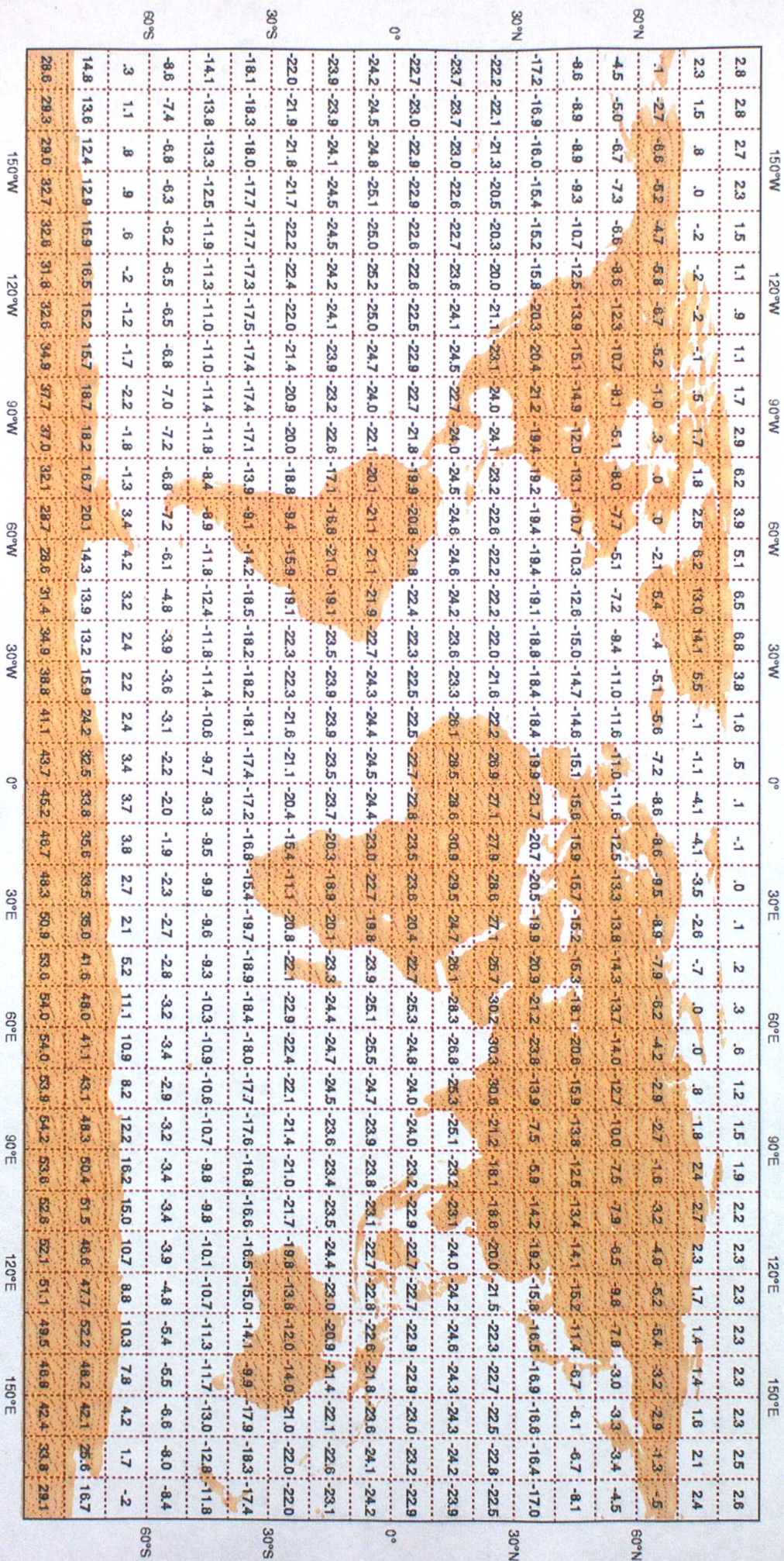


Figure 27. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS8 (Surface)
 NOAA15, using all observations



Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



NOAA15, using all observations



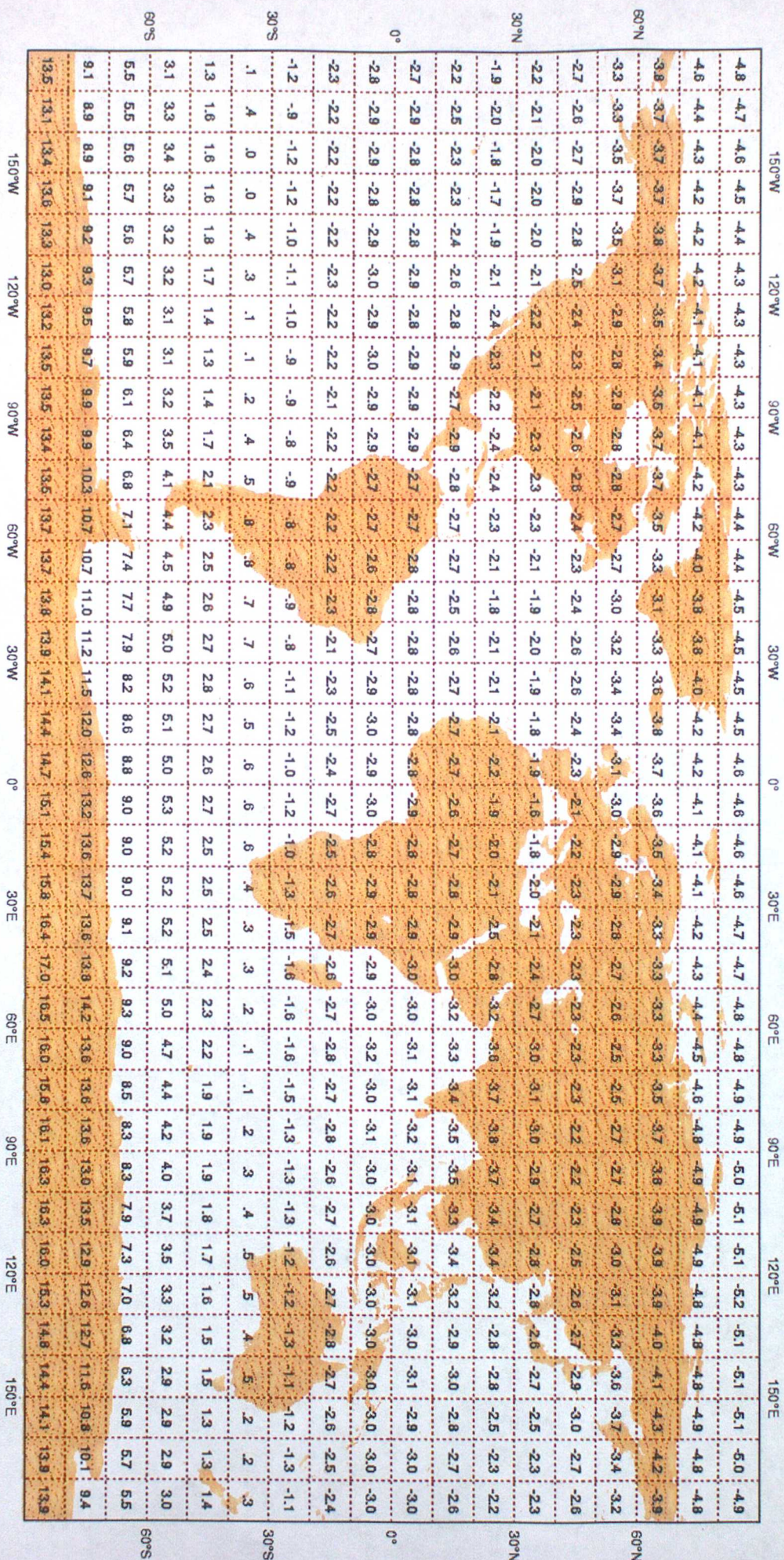
Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



Figure 31. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



NOAA15, using all observ

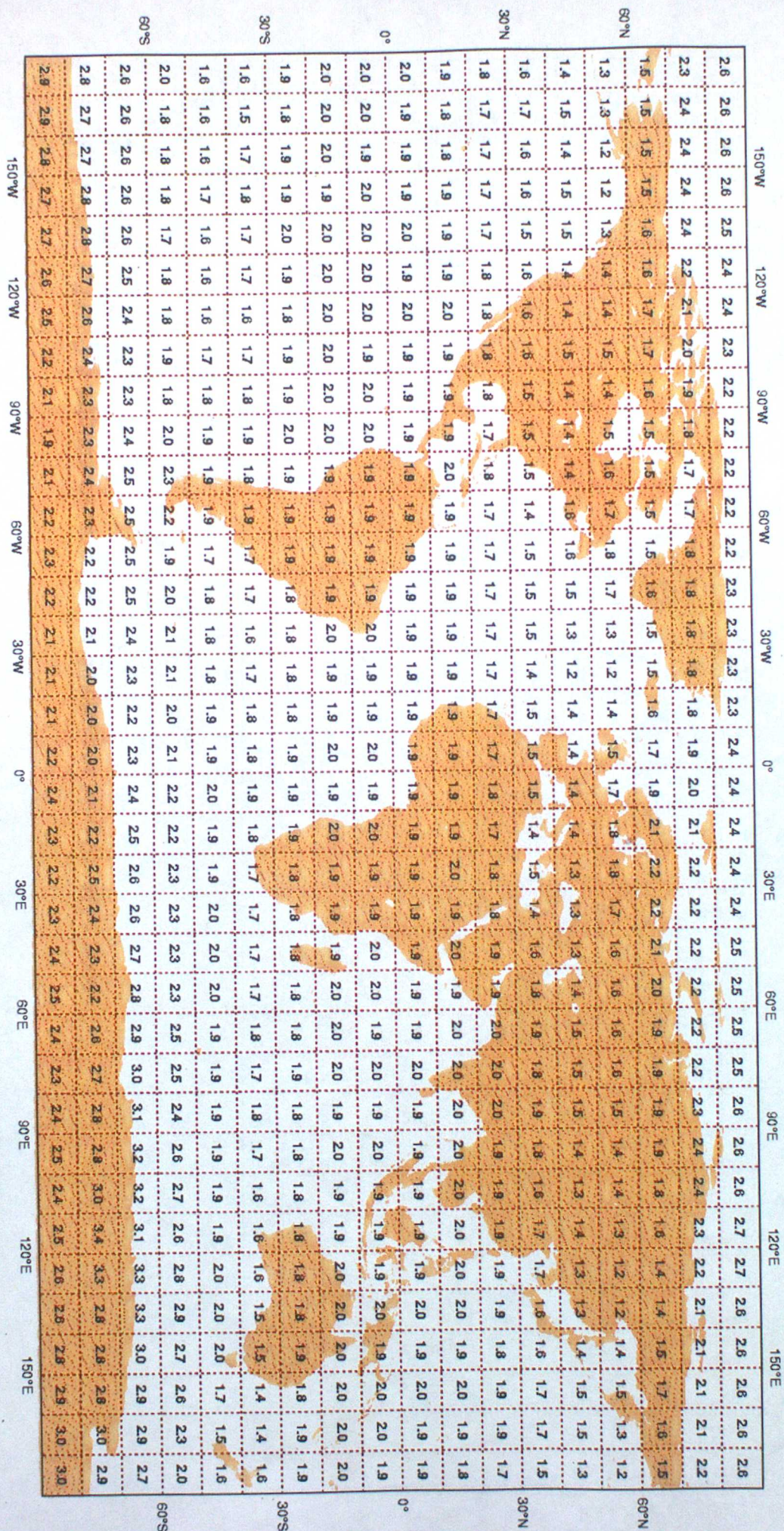


Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
 Channel: AMSUA-5 (700 hPa)
 NOAA15, using all observations

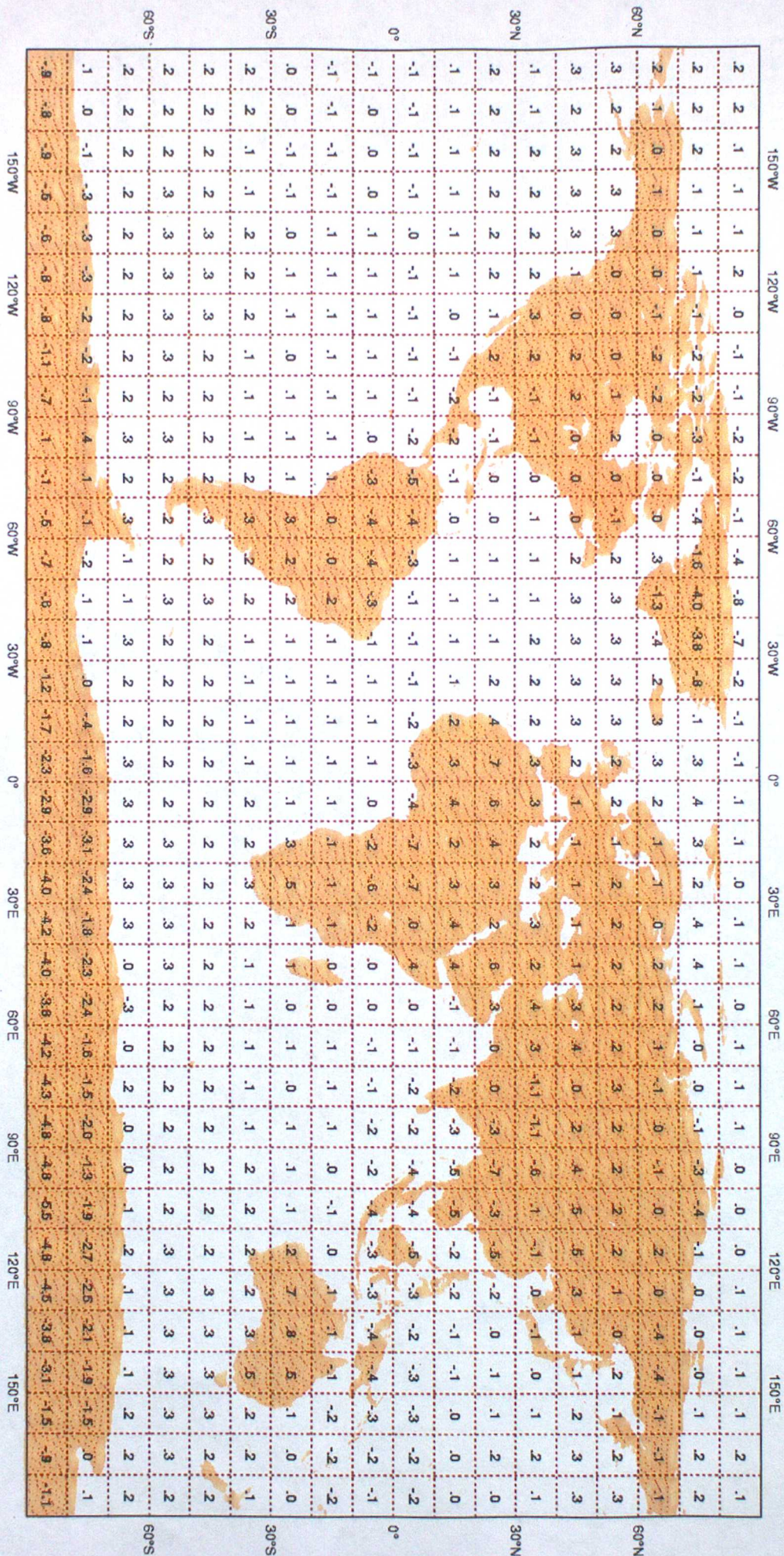
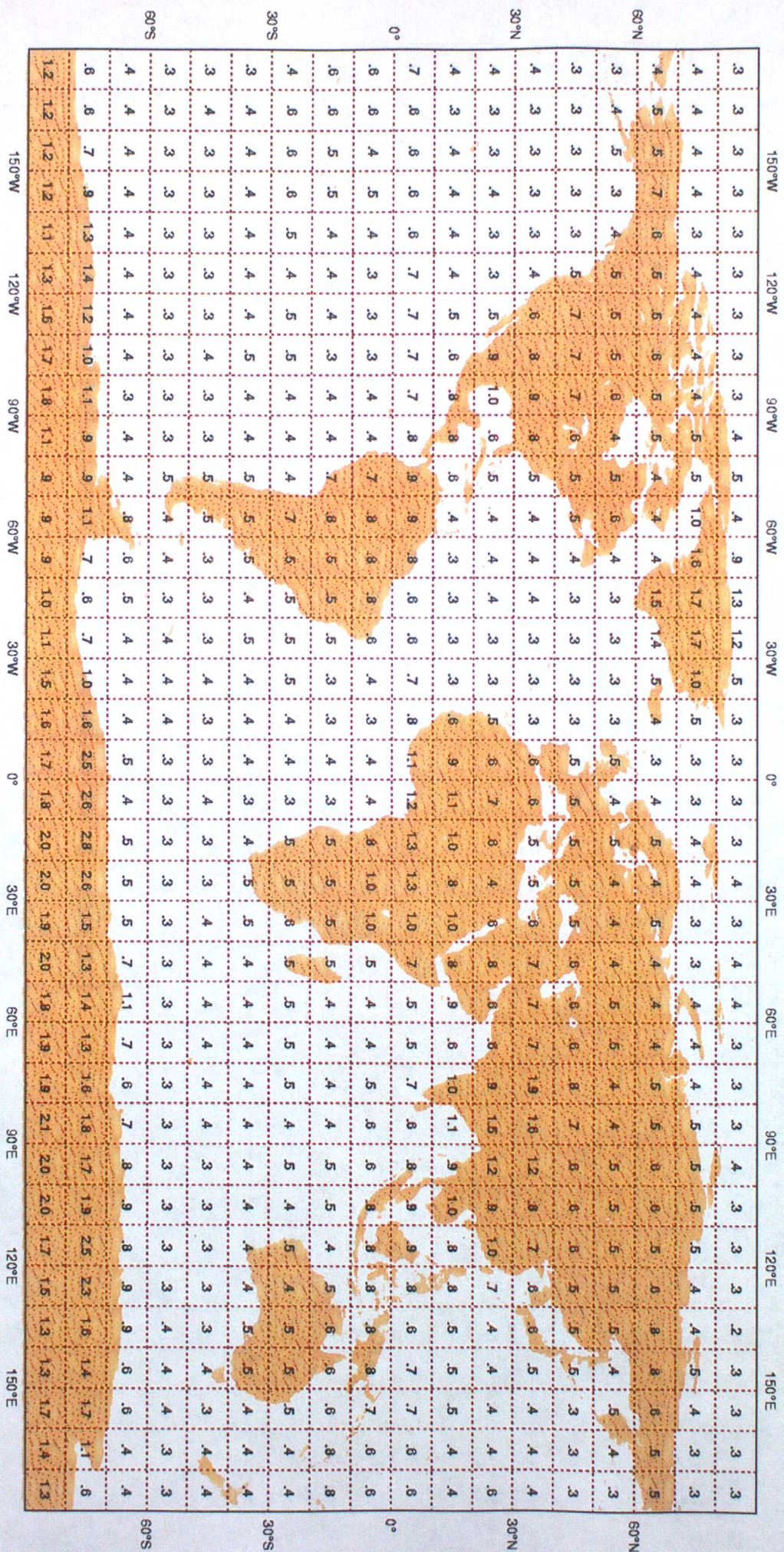


Figure 35. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: AMSUA-5 (700 hPa)
 NOAA15, using all observations



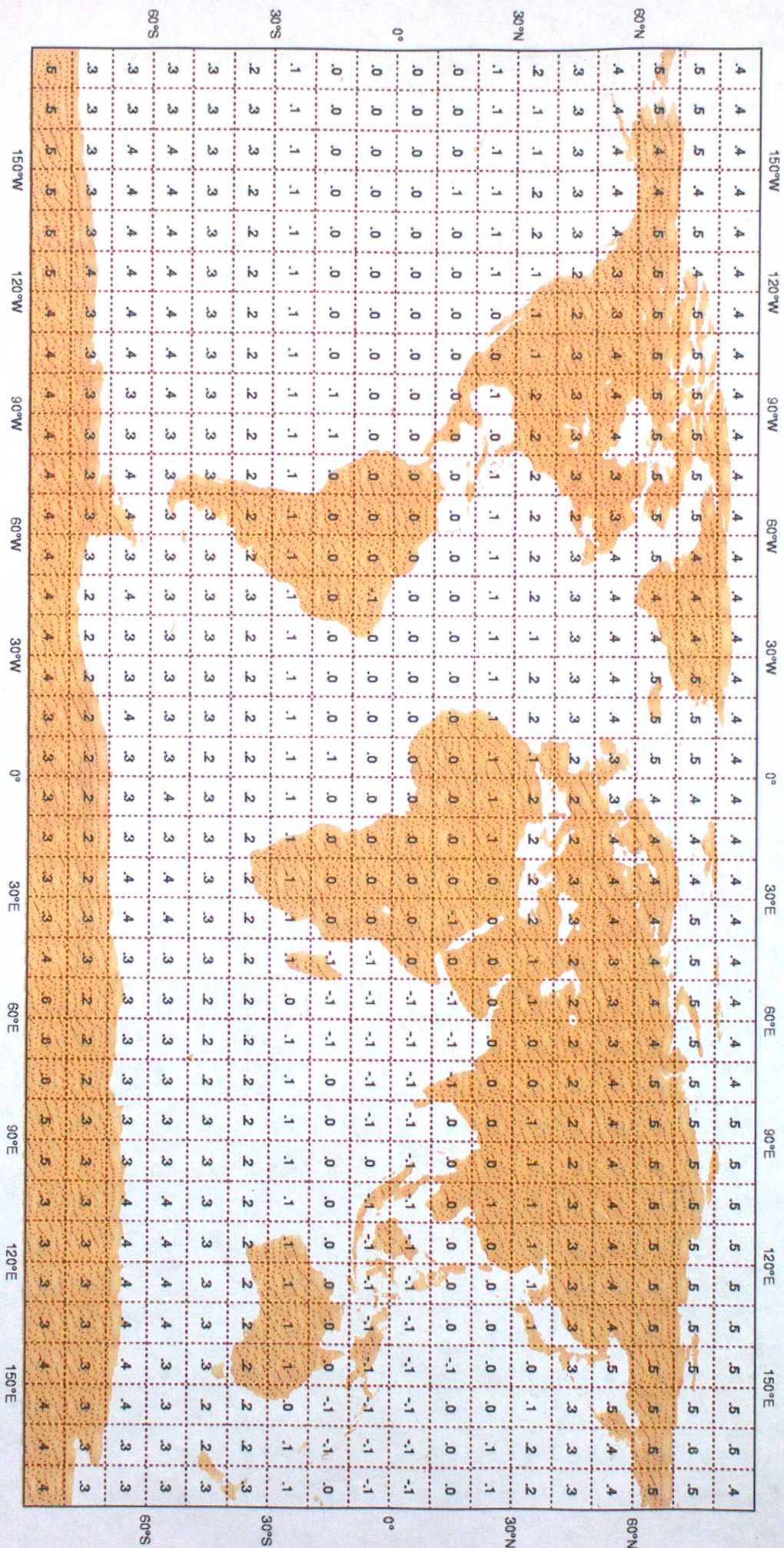
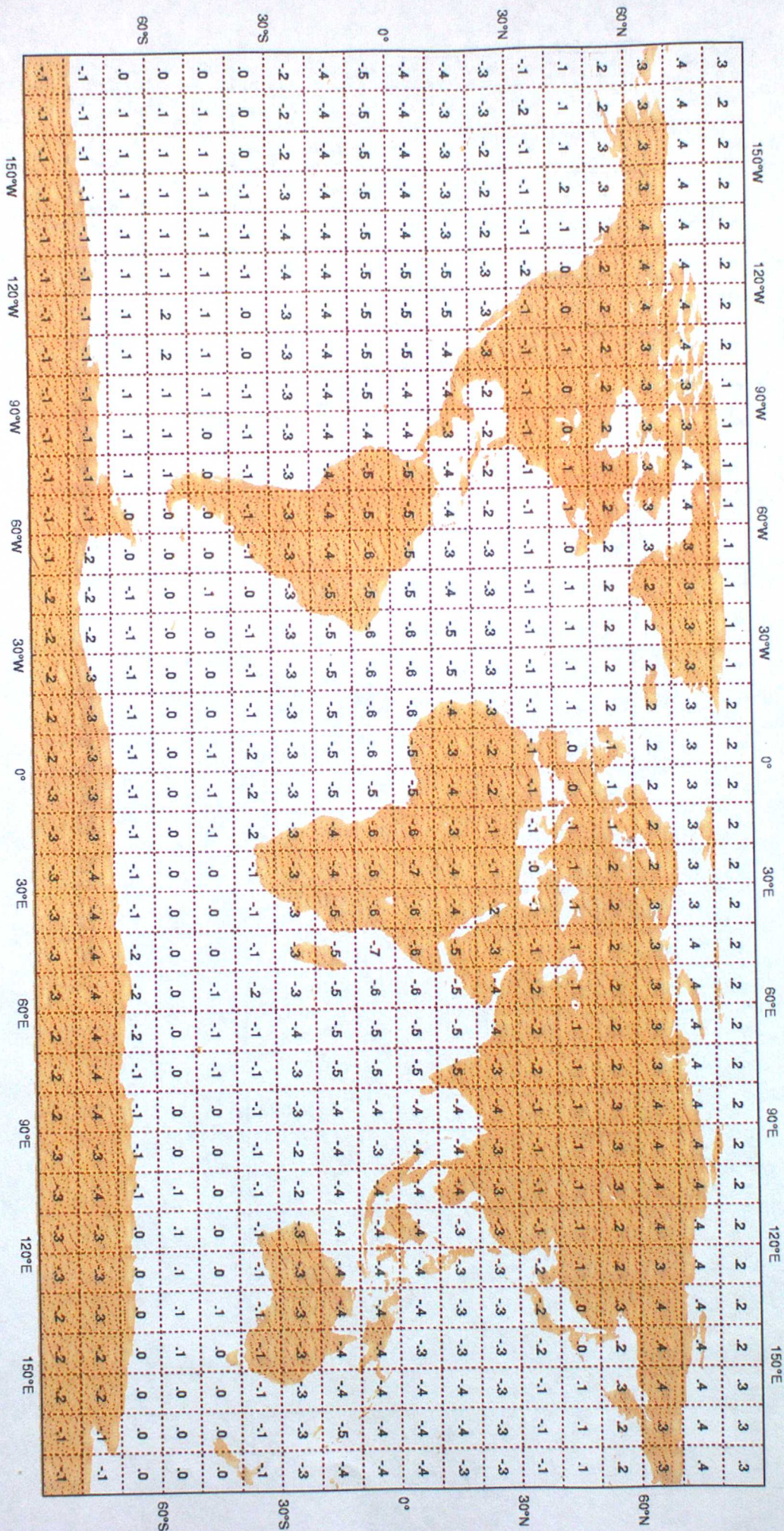


Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
 Channel: AMSUA-9 (100 hPa)
 NOAA15, using all observations



Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations

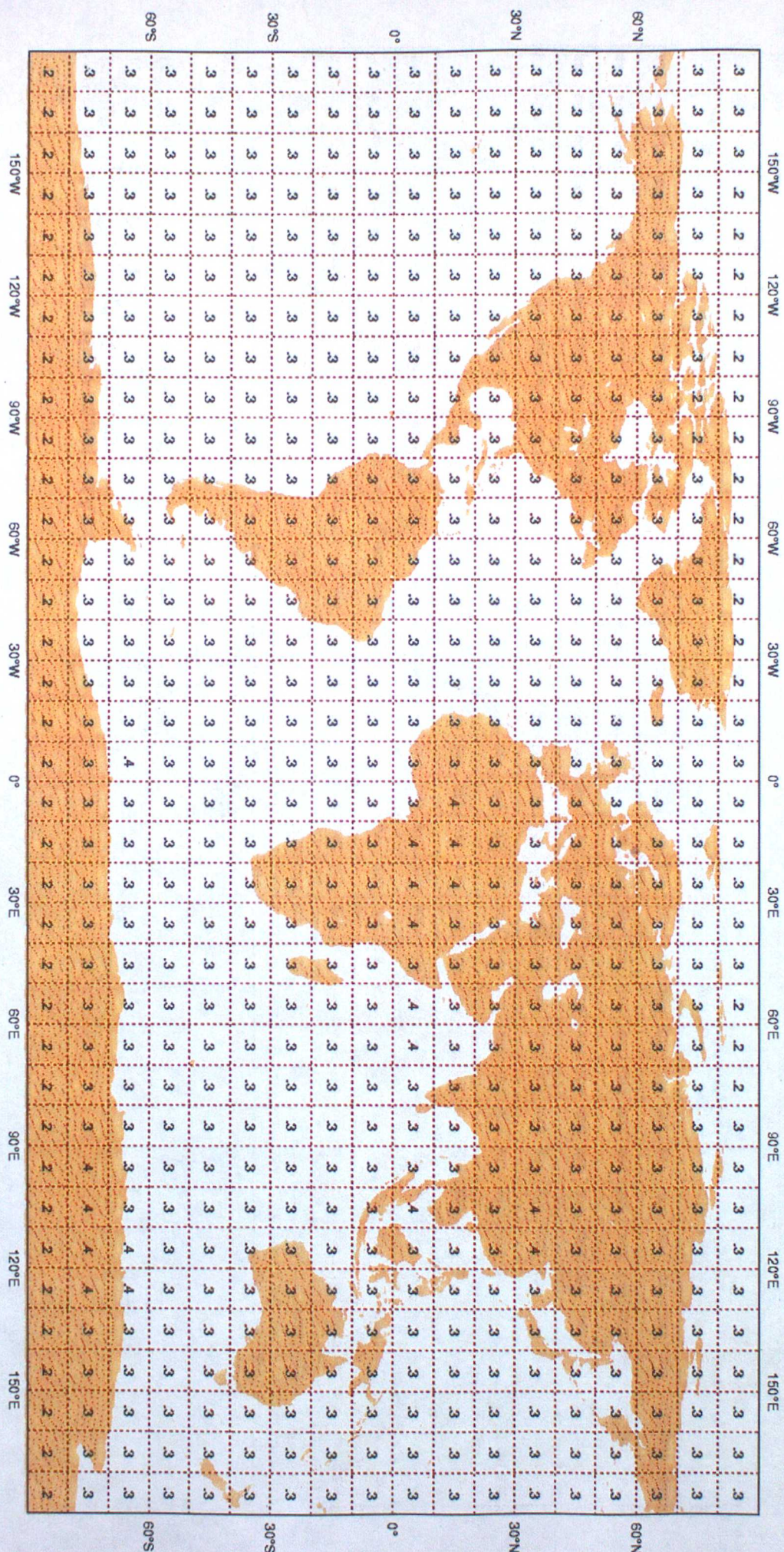


Figure 40. ATOVS mean daily count. MAY 2006
 NOAA16, using all observations
 Global average number of observations in 24 hours = 609818

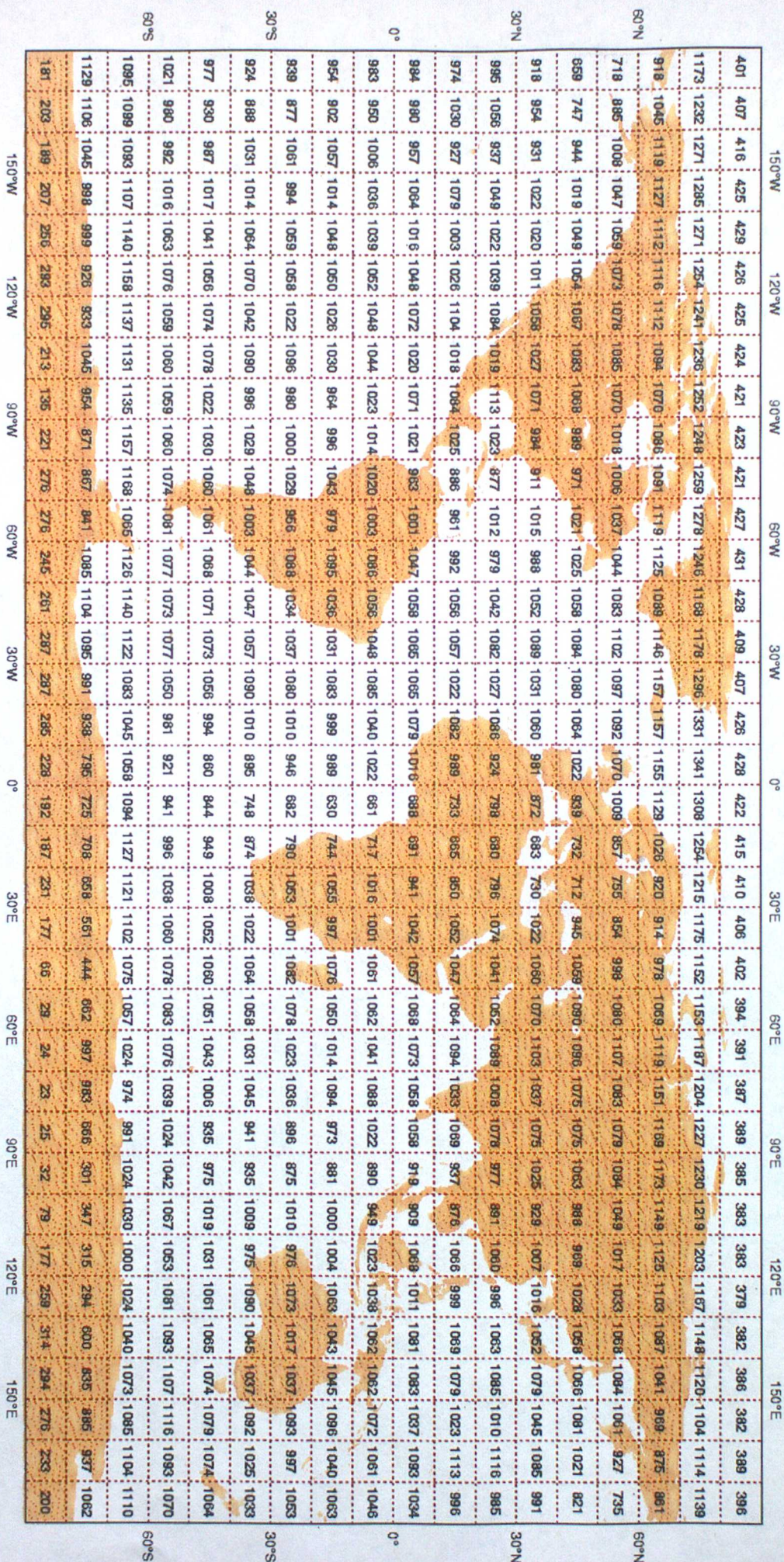


Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



Figure 42. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



Figure 44. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS15 (700 hPa)
 NOAA16, using all observations



Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



Figure 46. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



Figure 48. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



The figure is a global map showing the spatial distribution of the number of stations used in the analysis. The map is plotted on a grid with latitude from 60°N to 60°S and longitude from 150°W to 150°E. The number of stations is indicated by a color scale from 0 (white) to 3 (dark blue). The map shows a high density of stations in the North Atlantic, Europe, and the North Pacific, with a lower density in the Southern Ocean and the Indian Ocean.



Figure 54. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations

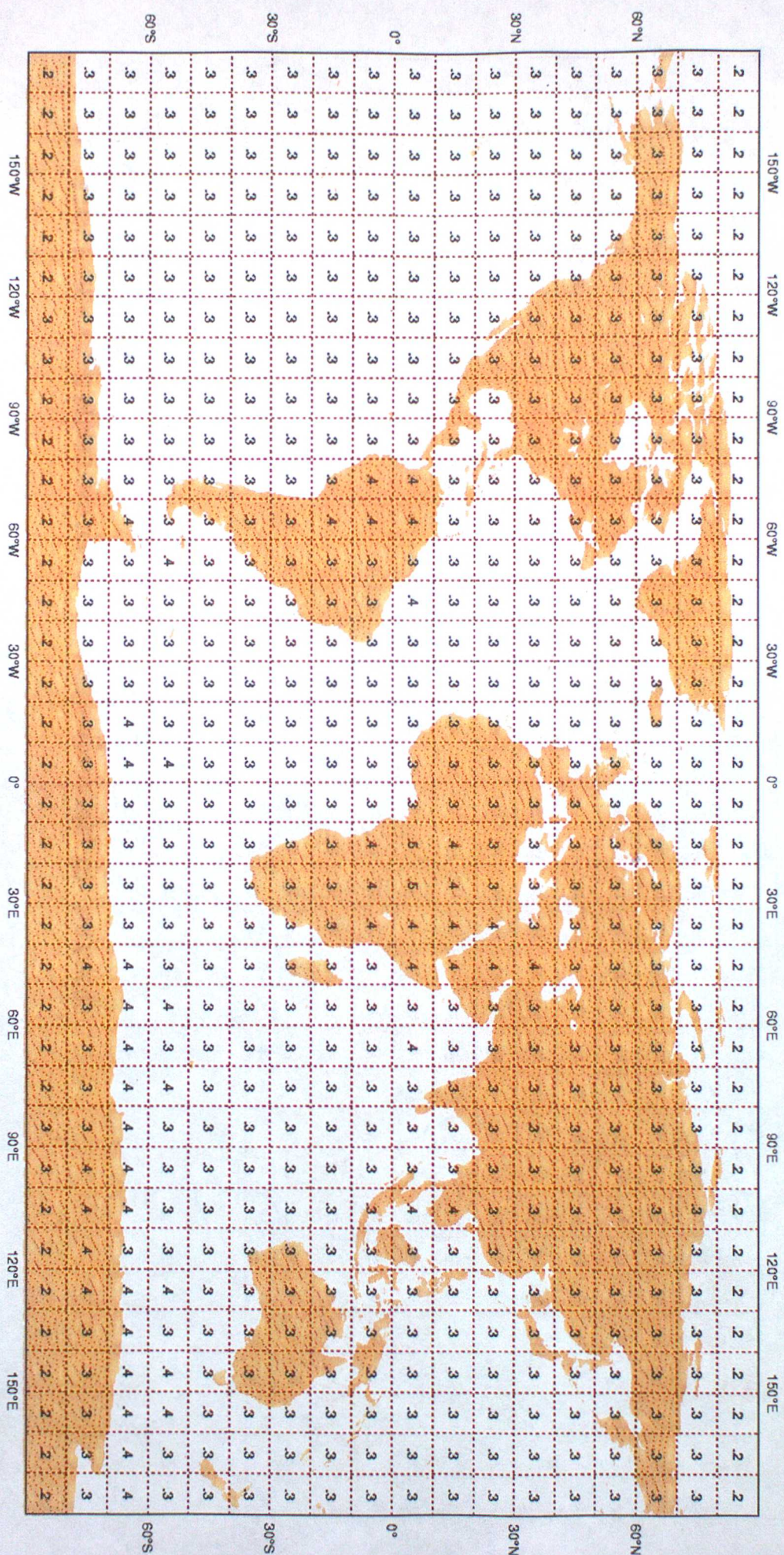


Figure 55. ATOVS mean daily count. MAY 2006
NOAA18, using all observations
Global average number of observations in 24 hours = 633101



Figure 56. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



Figure 57. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS8 (Surface)
 NOAA18, using all observations



Figure 58. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS15 (700 hPa)
 NOAA18, using all observations



Figure 59. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



Figure 60. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS11 (500 - 700 hPa)
 NOAA18, using all observations



Figure 61. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: HIRS11 (500 - 700 hPa)
 NOAA18, using all observations



Figure 62. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



Figure 63. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



Figure 64. ATOVS MEAN O-B brightness temperature differences (deg C). MAY 2006
 Channel: AMSUA-5 (700 hPa)
 NOAA18, using all observations

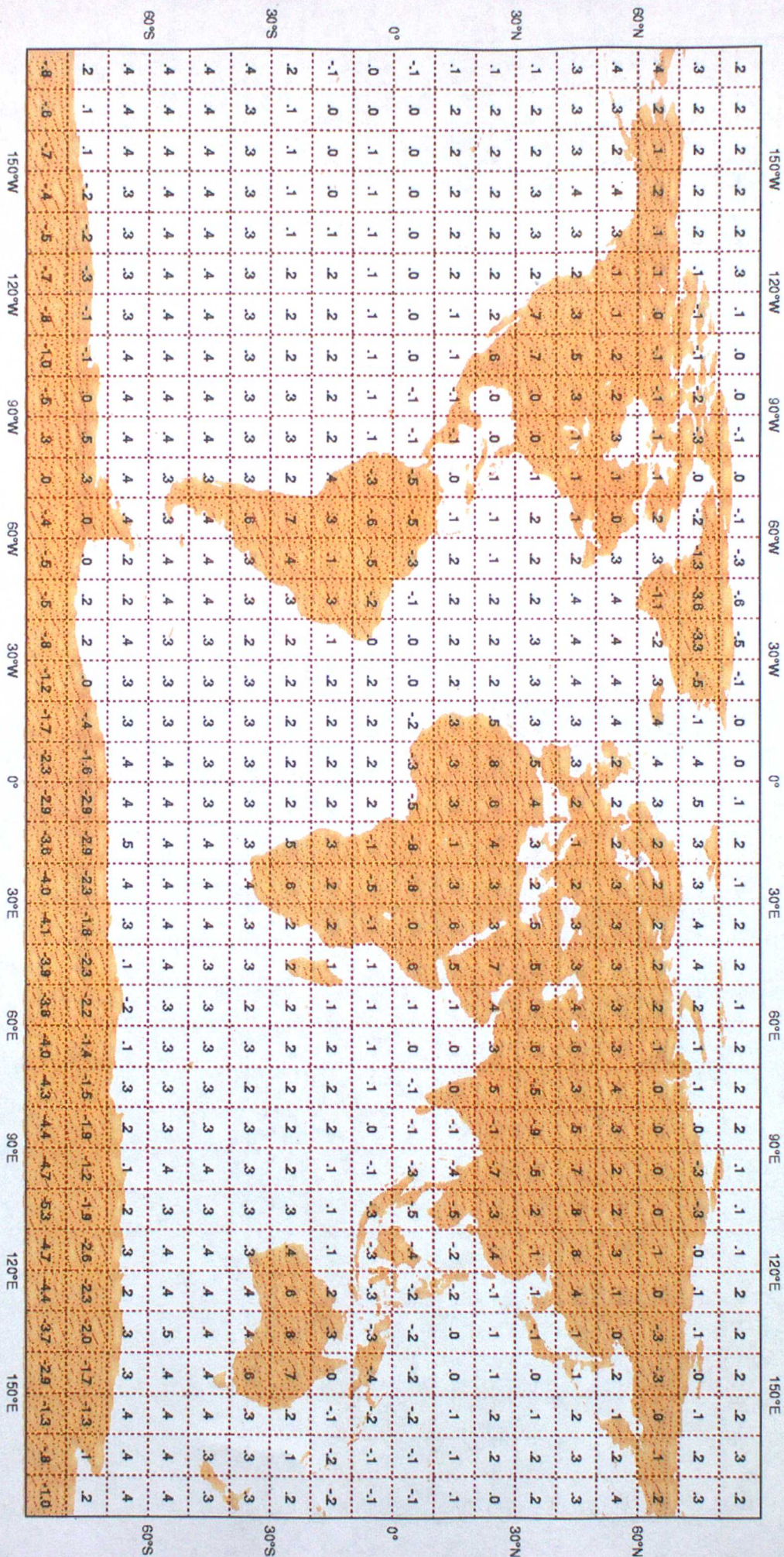


Figure 65. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006

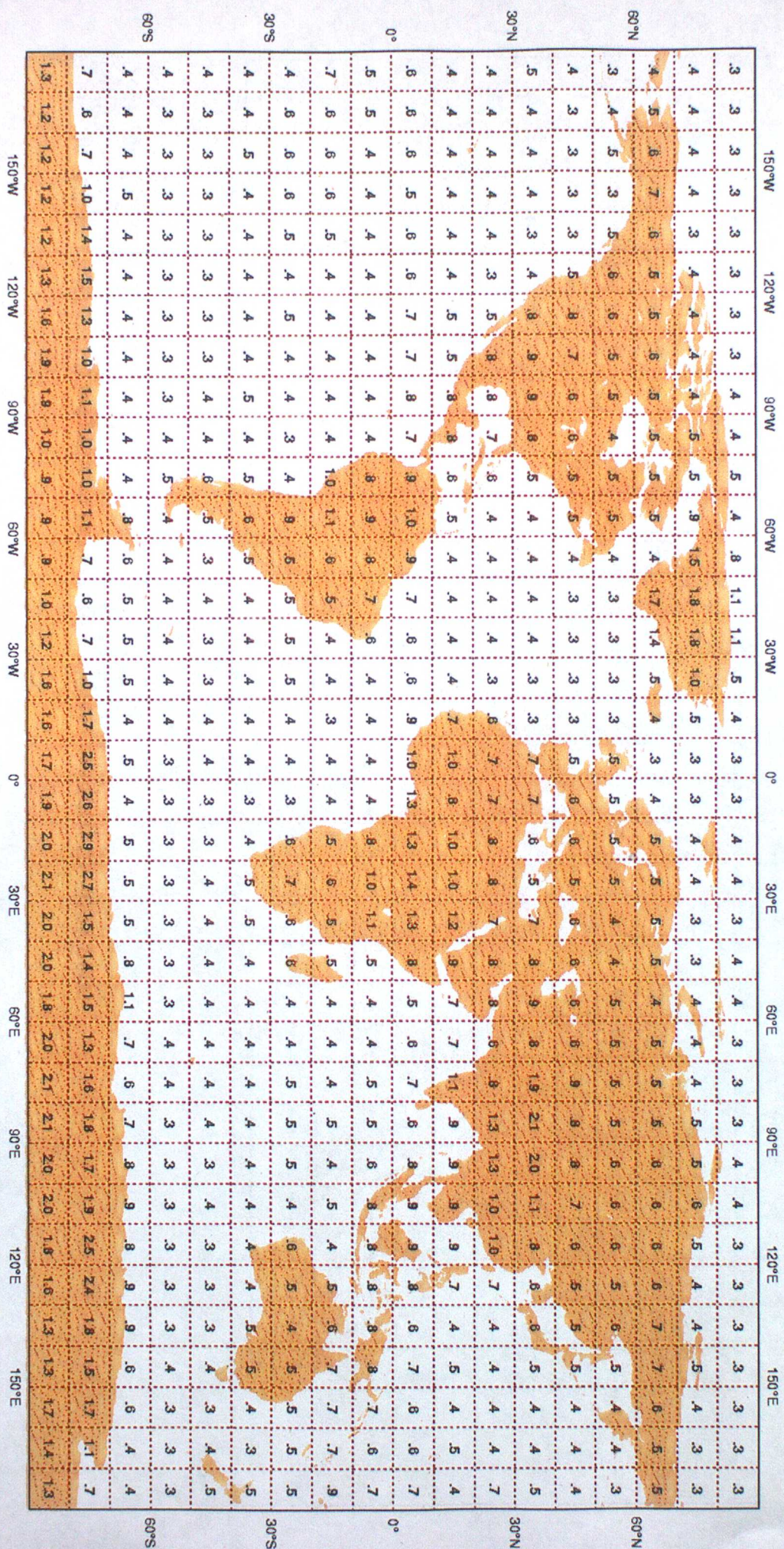


Figure 67. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

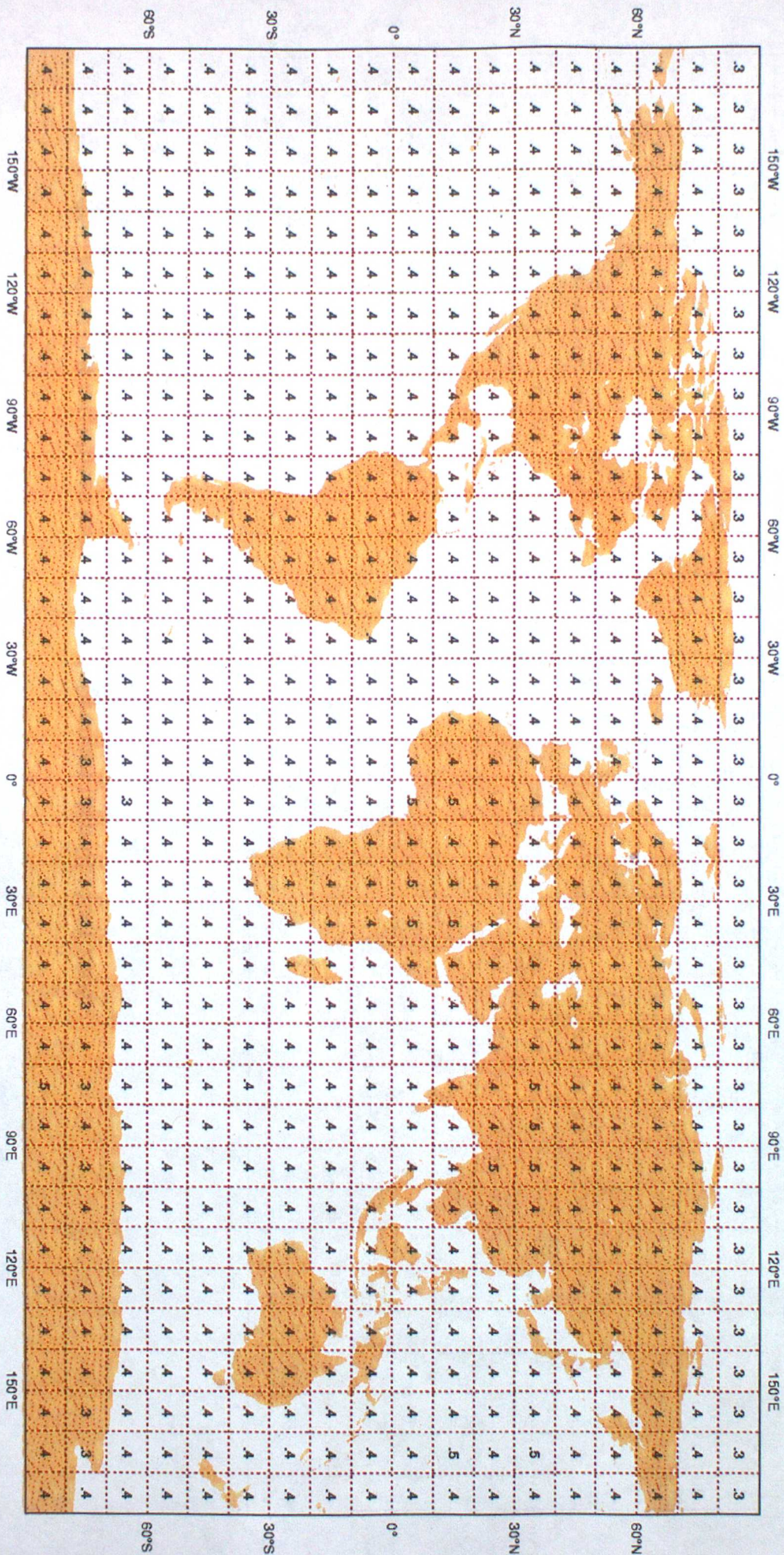


Figure 69. ATOVS SD O-B brightness temperature differences (deg C). MAY 2006
 Channel: AMSUA-9 (100 hPa)
 NOAA18, using all observations

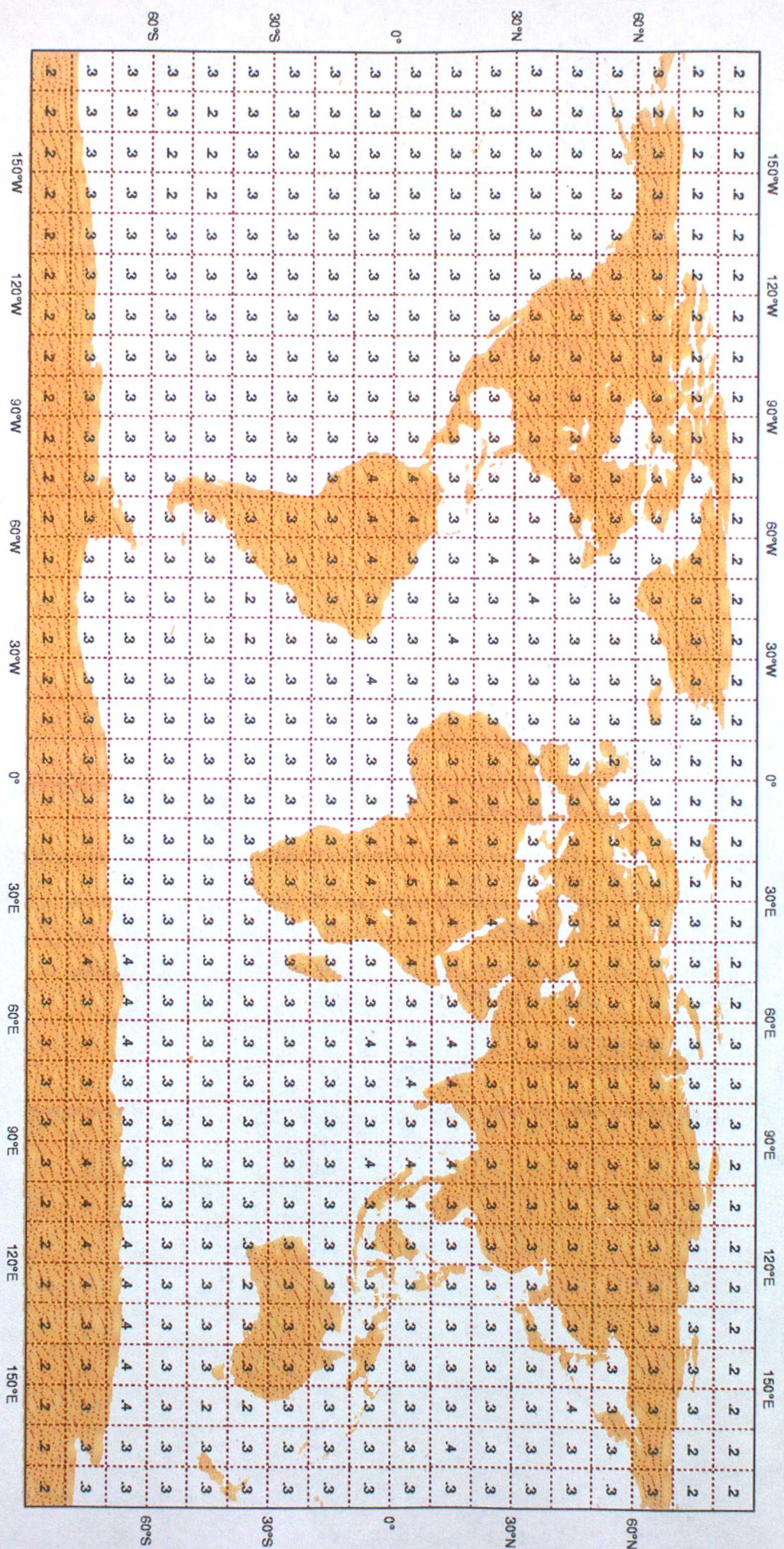


TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)

DATA TYPE:- DRIFTER

MONITORING CENTRE: EXETER

MONTH: May 06

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoy.
Area monitored		:10°N - 80°N, 85°W - 0°W
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:All hours combined.
Elements monitored		:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. N.B. A positive bias indicates the wind observation is veered to the background
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed $> 5 \text{ m s}^{-1}$

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	26.7	-46.4	P	747	2	3	0.4	-0.2	0.5
41525	27.4	-67.9	P	779	0	10	0.4	-0.3	0.5
41535	16.3	-55.2	P	827	0	12	0.4	-0.3	0.5
41536	13.7	-61.0	P	522	0	55	0.9	0.8	1.2
41537	17.6	-67.3	P	6	100	100			
41545	24.2	-54.2	P	793	0	9	0.4	-0.3	0.6
41625	25.7	-65.7	P	746	0	9	0.8	0.5	0.9
41630	29.4	-77.6	P	781	0	10	0.5	-0.1	0.5
41643	29.5	-76.9	P	754	0	9	0.6	0.1	0.6
41645	30.7	-70.3	P	1187	0	41	0.5	0.8	0.9
41646	24.8	-72.6	P	751	0	8	0.6	0.3	0.6
41923	24.4	-84.5	P	2618	0	76	0.5	0.6	0.8
42571	20.9	-83.5	P	822	0	10	0.5	-0.9	1.0
44607	34.4	-30.9	P	739	1	1	0.3	0.1	0.3
44609	46.2	-9.9	P	1039	0	41	0.7	0.3	0.8
44611	60.3	-10.2	P	715	0	0	0.5	-0.5	0.7
44613	44.6	-41.7	P	726	0	0	0.4	0.4	0.6
44614	46.5	-38.4	P	714	0	0	0.4	0.2	0.5
44615	44.3	-21.4	P	730	0	1	0.5	-0.7	0.9
44617	45.7	-43.7	P	730	0	0	0.5	0.7	0.9
44620	44.9	-51.0	P	732	0	0	0.5	0.6	0.8
44635	49.7	-31.2	P	20	0	0	0.9	0.5	1.0
44637	38.3	-65.0	P	298	0	10	0.8	0.0	0.8
44722	50.4	-14.8	P	672	0	0	0.6	-0.3	0.6
44723	63.2	-28.4	P	741	0	1	0.4	-0.3	0.5
44725	56.2	-39.1	P	737	0	1	0.5	0.5	0.7
44728	55.4	-21.7	P	724	0	0	0.5	0.1	0.5
44729	44.2	-61.3	P	738	0	1	0.5	-0.4	0.7
44730	62.9	-28.7	P	737	0	1	0.4	-0.2	0.4
44742	53.9	-44.9	P	739	0	1	0.5	-0.3	0.6
44745	32.4	-28.9	P	1110	0	37	0.3	0.3	0.4
44746	38.9	-31.6	P	738	0	1	0.4	0.2	0.4
44747	41.1	-27.2	P	741	0	1	0.4	0.1	0.4
44760	52.4	-48.6	P	729	0	1	0.5	0.3	0.5
44761	50.5	-30.9	P	711	0	0	0.7	0.0	0.7
44762	54.1	-39.9	P	740	0	0	0.4	-0.1	0.4
44763	54.1	-43.9	P	742	0	1	0.5	0.0	0.5
44764	45.5	-44.9	P	738	0	1	0.5	-0.1	0.5
44765	48.5	-40.3	P	734	0	0	0.4	-0.1	0.4
44766	46.6	-34.1	P	731	0	1	0.5	-0.2	0.5
44767	45.6	-35.0	P	729	0	1	0.5	0.1	0.5
44768	65.0	-29.9	P	745	0	1	0.6	-0.4	0.7
44769	45.9	-51.0	P	741	0	1	0.5	0.3	0.6
44770	55.8	-39.4	P	739	0	1	0.5	-0.1	0.5
44771	51.1	-48.6	P	737	0	1	0.5	-0.1	0.5
44772	41.6	-46.3	P	738	0	1	0.5	0.2	0.5
44773	42.1	-45.8	P	736	0	1	0.4	0.3	0.5
44774	41.6	-57.9	P	740	0	1	0.6	0.2	0.6
44776	56.9	-35.0	P	732	0	0	0.4	0.0	0.4
44777	50.4	-32.6	P	734	0	0	0.5	-0.5	0.7
44778	47.9	-44.1	P	732	0	0	0.4	-0.4	0.6
44779	50.4	-35.5	P	727	0	0	0.4	-0.1	0.4
44780	51.4	-40.9	P	729	0	0	0.4	-0.1	0.4
44845	49.4	-23.7	P	888	0	17	0.6	-0.3	0.6
44846	47.3	-11.8	P	831	0	13	0.5	0.1	0.5
44847	37.5	-23.1	P	828	0	12	0.5	0.0	0.5
44848	36.7	-32.6	P	842	0	13	0.3	0.2	0.4
44850	42.6	-20.5	P	857	0	15	0.4	0.0	0.4
44901	35.3	-34.4	P	842	0	12	0.3	0.2	0.4
44903	46.1	-25.2	P	865	0	15	0.5	0.1	0.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
44913	41.8	-44.0	P	228	0	12	0.4	-0.3	0.5
44914	37.8	-56.2	P	230	0	13	0.5	-0.1	0.5
47555	72.0	-73.1	P	1559	0	68	0.6	0.0	0.6
62510	27.4	-25.7	P	742	0	1	0.3	0.1	0.3
62514	62.9	-41.6	P	358	0	1	0.7	0.0	0.7

62515	43.8	-4.1	P	731	0	1	0.6	-0.2	0.6
62556	24.3	-60.6	P	743	0	1	0.4	0.2	0.4
62560	43.7	-27.5	P	680	0	1	0.5	-0.1	0.5
62562	51.3	-8.6	P	357	0	2	0.4	0.8	0.9
62564	36.6	-21.6	P	737	0	1	0.4	0.2	0.4

62567	36.8	-17.5	P	723	0	0	0.4	-0.4	0.6
62569	57.7	-30.5	P	741	0	1	0.4	0.4	0.6
62571	45.6	-3.7	P	611	0	0	0.5	0.2	0.5
62572	33.9	-12.8	P	740	0	2	0.4	-0.2	0.4
62573	38.6	-31.5	P	734	0	1	0.3	0.3	0.4

62574	50.1	-21.6	P	714	0	0	0.5	0.1	0.5
62575	48.9	-30.1	P	729	0	0	0.8	-0.3	0.8
62934	45.1	-5.2	P	839	0	13	0.4	0.2	0.5
62935	42.4	-20.3	P	1102	0	35	0.5	0.0	0.5
63528	74.3	-14.6	P	2181	0	82	0.7	0.1	0.7

63529	75.5	-12.6	P	2621	0	84	0.7	0.2	0.7
64614	64.8	-26.7	P	743	0	1	0.4	0.0	0.4
64615	65.4	-29.3	P	733	0	1	0.7	-0.4	0.8
64616	60.7	-33.3	P	739	0	1	0.4	-0.3	0.5
64617	60.4	-36.0	P	740	0	1	0.4	0.2	0.5

9350317	44.1	-51.6	P	3	0	0	1.1	0.3	1.1
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IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.4	-67.9	SPEED	761	0	100	1.6	-1.1	2.0
41630	29.4	-77.6	SPEED	727	0	100	2.4	-0.5	2.5
41643	29.5	-76.9	SPEED	731	0	100	1.9	-1.0	2.1
41645	30.7	-70.3	SPEED	1175	0	100	1.9	-0.1	1.9
41646	24.8	-72.6	SPEED	742	0	100	2.2	-0.6	2.3

62571	45.6	-3.7	SPEED	466	0	100	1.7	0.4	1.8
9350317	44.1	-51.6	SPEED	3	0	100	1.4	0.3	1.4

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.4	-67.9	DIRN.	174	0	0	24.0	10.2	26.1
41630	29.4	-77.6	DIRN.	265	0	0	25.3	9.1	26.9
41643	29.5	-76.9	DIRN.	275	0	0	23.9	22.9	33.1
41645	30.7	-70.3	DIRN.	669	0	0	25.8	29.4	39.1
41646	24.8	-72.6	DIRN.	214	0	0	22.0	22.2	31.3

62571	45.6	-3.7	DIRN.	250	0	0	18.8	3.2	19.1
9350317	44.1	-51.6	DIRN.	2	0	0	14.1	-10.2	17.4

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures:		
Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:40°N - 70°N, 60°W - 0°W.
Standard of comparison		:Background field from UKMO global model.
Observation times		:All hours combined.
Level(s) monitored		:300.0 - 150.0 hPa
Elements monitored		:TEMP in °C ; WIND in m s ⁻¹
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.
GROSS ERROR LIMITS	:10.0 °C ; 60 m s ⁻¹ Vector Wind	
SELECTION CRITERIA	:N REP ≥ 20	

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

IDENT.	N.REP.	TEMPERATURE				N.REP.	WIND				BIAS
		PG	PR	RMS	BIAS		PG	PR	PC	RMS	
AAL	5070	0	6	1.3	0.3	4582	0	6	0	4.1	0.5
ACA	2307	1	4	1.3	-0.2	1784	0	3	0	4.1	0.6
ACF	45	9	33	3.1	-0.1	22	0	45	0	22.4	-4.1
AEA	457	0	3	1.8	0.1	361	0	3	0	6.7	-0.2
AFL	397	1	6	1.7	0.1	198	1	9	0	8.9	0.2
AFR	4841	0	3	1.3	0.1	4565	0	3	0	4.5	0.6
AFZ	177	0	8	1.6	1.1	177	1	8	0	4.7	-0.2
AJM	116	0	15	2.5	-0.2	75	0	16	0	10.0	-0.1
AMT	75	0	11	2.0	0.5	62	0	10	0	11.2	-0.6
AMX	347	1	4	1.6	0.2	275	1	6	0	7.2	0.2
ANZ	154	0	47	1.2	-0.3	131	0	49	0	3.7	0.5
AUA	448	0	3	1.3	0.5	410	0	2	0	3.8	0.4
AVA	76	0	3	1.5	-0.1	76	1	7	0	8.1	-0.3
AZA	260	1	8	2.0	0.6	193	1	9	0	9.3	0.5
BAF	29	0	14	2.3	-1.1	22	0	5	0	7.1	2.2
BAW	610	1	23	1.7	-0.5	386	0	18	0	6.8	0.4
BMA	344	0	7	1.2	0.1	310	0	7	0	3.6	1.0
BPA	198	1	22	2.4	0.6	178	1	13	0	11.4	0.2
BWA	139	0	5	2.3	-0.1	99	0	2	0	6.5	-0.3
CFC	27	0	4	2.2	1.2	24	0	4	0	11.7	3.3
CFG	355	1	8	1.7	0.1	236	0	10	0	12.1	-0.4
CFY	51	0	0	1.2	0.0	49	0	0	0	2.8	0.8
CGF	427	0	1	1.2	-0.2	369	0	1	0	3.3	0.8
CGH	404	0	1	1.1	-0.2	345	0	1	0	3.2	0.8
CKS	63	0	13	2.7	0.6	28	0	4	0	9.1	-0.7
CLX	231	1	7	1.9	-0.6	107	0	8	0	10.7	-0.1
CNJ	88	0	56	0.9	0.3	88	0	56	0	3.7	-0.1
COA	4812	0	8	1.2	0.0	4517	0	7	0	4.3	0.5
CRL	65	0	8	1.5	-0.5	60	0	8	0	6.1	-0.3
CSD	56	0	7	2.4	0.5	35	0	6	0	5.3	-0.7
CUB	141	0	9	1.8	0.4	104	0	100	0	12.3	0.0
DAB	1066	0	4	1.3	-0.1	959	0	3	0	3.6	0.4
DAI	968	0	7	1.1	0.2	858	0	8	0	3.1	0.8
DAL	1549	0	6	1.5	0.2	1238	0	4	0	4.8	0.6
DLH	5472	0	3	1.3	0.0	5118	0	3	0	3.9	0.4
DRD	103	0	5	1.7	-0.5	102	0	8	0	9.8	0.5
EEZ	76	1	13	2.1	0.1	54	0	13	0	6.8	0.8
EIA	216	0	64	1.7	-0.3	181	0	100	0	23.8	10.9
ELY	321	0	3	1.3	0.3	293	0	3	0	5.1	0.5
FCA	106	2	8	1.7	0.0	67	0	10	0	11.4	0.8
FDX	253	0	37	1.4	0.0	136	0	39	0	6.0	1.1
FGE	50	0	0	1.2	-0.4	46	0	0	0	3.7	0.4
FGI	295	0	1	1.3	-0.4	272	0	1	0	3.3	0.3
FGL	110	0	5	1.1	0.2	109	0	6	0	4.2	1.0
FGN	28	0	0	1.2	0.1	27	0	0	0	4.3	1.2
FGS	448	0	5	1.2	0.2	423	0	5	0	3.7	0.6
FGZ	122	0	1	1.1	-0.2	121	0	1	0	3.5	0.9
FIN	226	0	6	1.3	0.2	162	0	7	0	6.2	-0.2
FWI	161	1	16	1.9	-0.4	142	1	14	0	9.6	-0.1
GCO	83	4	17	2.2	0.0	73	0	11	0	9.0	0.1
GEC	420	1	23	1.8	-0.1	385	0	23	0	7.8	0.6
GOJ	208	0	3	1.5	0.4	168	0	2	0	3.2	0.8
GRL	78	0	0	1.0	-0.1	72	0	0	0	3.5	0.6
GTI	98	0	6	2.1	0.6	62	0	5	0	8.2	1.1
GVA	52	0	4	1.1	0.2	48	0	4	0	3.4	0.1
GVB	97	0	4	1.1	0.1	85	0	1	0	3.4	0.4
GVF	107	0	1	1.3	-0.7	96	0	0	0	3.5	0.2
GVG	79	0	4	1.2	-0.7	70	0	3	0	2.9	0.6
GVH	90	0	2	1.2	-0.4	68	0	1	0	3.0	0.6

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND			
		PG	PR	RMS	BIAS			PR	PC	RMS	BIAS
GVL	47	0	2	1.4	-0.5	44	0	2	0	3.5	0.6
GVR	175	0	2	1.3	0.1	160	0	3	0	3.7	0.2
GVT	67	0	1	1.2	-0.4	63	0	2	0	3.4	0.9
GVW	86	0	0	1.2	-0.4	73	0	0	0	3.5	0.2
GVX	71	0	1	1.3	-0.1	66	0	2	0	3.4	0.4
GWV	129	0	3	1.0	-0.1	118	0	3	0	3.2	0.8
HBI	235	0	3	1.2	-0.4	222	0	3	0	3.7	0.9
HBJ	126	0	5	1.2	-0.5	112	0	5	0	3.5	0.8
IBE	1707	1	4	1.7	-0.2	1676	0	5	0	8.6	0.2
ICE	1008	0	3	1.4	0.0	529	0	2	0	4.5	0.9
ISR	46	0	2	1.3	-0.4	21	5	5	0	6.6	-0.1
IWD	214	3	7	2.0	-0.2	211	0	4	0	8.9	0.2
KAC	116	0	2	1.2	0.4	110	0	2	0	3.5	0.4
KLM	965	0	4	1.5	-0.1	684	0	6	0	7.6	0.0
LCO	36	0	25	2.6	-0.6	27	4	19	0	9.9	0.0
LNR	330	0	46	1.1	-0.2	289	0	46	0	3.3	0.7
LOT	405	0	3	1.8	-0.9	251	0	3	0	6.6	0.8
LTU	461	1	5	1.4	-0.3	379	0	5	0	6.9	1.0
LVG	163	1	8	1.5	0.1	147	0	6	0	6.9	0.7
MAS	103	0	2	1.3	0.1	83	0	1	0	4.4	0.9
MPD	124	0	1	1.5	0.5	108	1	2	0	6.1	0.5
MPH	118	1	9	2.1	-0.6	74	0	16	0	13.9	-1.4
MSR	104	0	1	1.2	0.4	97	0	1	0	3.4	0.7
MXJ	300	1	7	1.5	-0.1	164	0	4	0	5.7	0.6
MYT	153	0	7	1.7	-0.2	103	0	16	0	10.5	-0.3
NAO	65	2	8	2.2	-0.2	49	2	8	0	8.1	0.2
NOS	105	0	10	2.0	0.4	66	0	8	0	9.2	-0.5
NWA	2520	0	4	1.5	0.0	2277	0	3	0	5.2	0.4
OAE	208	0	8	1.7	-0.3	81	0	12	0	10.5	0.8
OOM	103	2	6	1.3	0.1	78	0	5	0	6.7	1.0
OYK	458	0	51	1.1	0.0	400	0	52	0	3.0	0.7
PAC	90	1	9	2.0	0.3	50	0	8	0	7.5	0.1
PLM	161	0	1	1.8	0.8	148	0	3	0	7.2	-0.1
RAM	331	1	3	1.5	0.0	235	0	8	0	9.5	-0.3
RCH	256	0	100	3.7	-0.4	182	0	100	0	11.7	0.8
RJA	41	5	5	1.2	-0.1	27	0	7	0	9.2	-0.3
RZO	205	1	4	1.6	-0.5	182	1	7	0	9.5	0.2
SAS	1146	0	63	1.2	-0.1	1038	0	63	0	3.5	0.7
SER	459	0	57	1.2	0.2	392	0	56	0	3.1	0.9
SEU	118	3	15	2.3	-0.3	83	0	17	0	10.7	2.0
SIA	294	0	0	1.2	-0.2	283	0	0	0	4.3	0.5
SLM	39	3	10	1.3	-0.4	39	0	13	0	10.0	1.1
SQC	254	0	1	1.2	-0.1	242	0	1	0	4.3	0.1
SWR	1792	0	5	1.2	-0.4	1703	0	5	0	4.2	0.7
TAP	319	0	3	1.6	-0.3	261	0	4	0	7.4	0.7
TCX	294	0	3	1.1	0.1	264	0	3	0	4.3	0.8
TFL	111	0	11	1.9	-0.4	61	0	15	0	14.5	1.3
THT	106	0	1	1.3	-0.5	95	0	1	0	4.3	1.0
TOM	230	2	12	2.2	-0.2	215	0	9	0	8.9	-0.3
TSC	231	0	3	1.6	-0.9	148	0	5	0	6.2	0.4
TUB	58	2	9	1.5	-0.1	24	0	17	0	10.1	-0.1
UAE	337	0	1	1.3	0.4	298	0	1	0	4.0	0.4
UAL	3494	0	3	1.2	-0.2	3271	0	4	0	3.9	0.6
UPS	958	1	48	1.7	-0.2	487	0	43	0	6.6	0.0
USA	1834	0	3	1.2	0.0	1743	0	3	0	3.9	0.5
VIR	2726	0	3	1.3	-0.1	2520	0	3	0	4.0	0.4
WHT	26	0	4	2.0	0.4	26	0	4	0	6.3	1.4
WOA	187	1	11	2.0	0.0	118	0	16	0	10.8	0.6
XLA	48	4	27	3.4	0.7	32	0	13	0	8.6	2.7

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND		RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC		
ZKN	134	0	1	1.4	-0.2	120	0	1	0	3.6	0.4
ZKS	46	0	0	1.0	-0.3	36	0	0	0	3.7	1.4
4XE	24	0	8	1.2	0.4	21	0	10	0	3.2	0.8
9VS	88	0	5	1.4	0.0	82	0	4	0	4.3	0.4

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND		RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC		
EU	47769	0	21	1.2	0.1	47769	0	21	0	3.7	0.2
HZ	24	0	0	1.1	0.4	23	0	0	0	3.9	-0.1

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND		RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC		
N	5978	0	14	1.4	-0.1	5330	0	14	0	3.7	0.5

IDENT.	N.REP.	TEMPERATURE				N.REP.	PG	WIND		RMS	BIAS
		PG	PR	RMS	BIAS			PR	PC		
	41714	0	33	1.3	0.2	41714	0	29	0	4.4	0.1

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	100	8	0	5.1	30.6	30.1
ASDE01	12	Z	100	9	0	22.4	33.3	24.7
ASDE02	12	Z	100	2	0	10.5	10.6	-1.5
ASDE03	00	Z	100	6	0	3.5	49.3	49.2
ASDE03	12	Z	100	9	0	11.4	52.0	50.8
ASDE04	00	Z	100	1	0	0.0	28.0	28.0
ASDE04	12	Z	100	1	0	0.0	24.0	24.0
ASEU01	00	Z	100	9	0	12.1	18.2	13.7
ASEU01	12	Z	100	7	0	9.1	19.9	17.7
ASEU02	00	Z	100	8	0	7.8	18.6	16.9
ASEU02	12	Z	100	11	0	27.0	38.4	27.4
ASEU03	00	Z	100	8	0	12.1	23.8	20.5
ASEU03	12	Z	100	4	0	6.1	22.1	21.3
ASEU04	00	Z	100	2	0	2.5	28.6	28.5
ASEU04	12	Z	100	5	0	42.2	44.1	12.8
ASEU05	00	Z	100	16	0	16.6	20.6	12.2
ASEU05	12	Z	100	14	0	11.1	18.3	14.6
ASUK01	00	Z	100	7	0	17.6	41.9	38.0
ASUK01	12	Z	100	8	0	15.2	44.1	41.4
EBUQ	12	Z	100	16	0	9.2	9.4	1.4
ELML7	00	Z	100	3	0	3.1	23.5	23.3
ELML7	12	Z	100	3	0	8.5	15.8	13.3
FQFL	00	Z	100	9	0	15.0	24.3	-19.1
FQFL	12	Z	100	7	0	14.7	15.9	-6.0
FQFM	00	Z	100	11	0	13.0	24.6	-20.9
FQFM	12	Z	100	10	0	13.5	17.2	-10.6
LDWR	00	Z	100	30	0	9.6	17.9	15.2
LDWR	12	Z	100	29	0	9.3	11.6	7.0
MCOUA	00	Z	100	1	0	0.0	25.0	25.0
MCOUA	12	Z	100	15	1	21.5	33.3	25.4
OXGN2	00	Z	100	9	0	9.3	24.2	22.3
OXGN2	12	Z	100	12	0	19.9	32.4	25.5
OXVH2	00	Z	100	9	0	9.5	16.3	13.3
OXVH2	12	Z	100	8	0	8.4	14.1	11.4
V2XM	00	Z	100	12	0	15.0	34.7	31.3
V2XM	12	Z	100	9	0	19.5	36.2	30.6
03953	00	Z	100	27	0	11.8	13.1	5.8
03953	12	Z	100	30	0	9.8	10.2	3.0
04018	00	Z	100	29	0	7.3	14.2	12.1
04018	12	Z	100	30	0	18.9	23.4	13.9
04220	00	Z	100	29	0	6.6	19.4	18.3
04220	12	Z	100	30	0	12.8	19.6	14.9
04270	00	Z	100	30	0	6.9	10.9	8.5
04270	12	Z	100	31	0	8.9	11.1	6.6
04339	00	Z	100	30	0	22.9	26.3	12.8
04339	12	Z	100	28	0	17.0	22.0	14.0
04360	00	Z	100	28	0	11.0	21.2	18.1
04360	12	Z	100	31	0	34.0	45.1	29.6
08001	00	Z	100	27	0	9.2	21.7	19.7
08001	12	Z	100	25	0	10.4	23.5	21.0
08508	12	Z	100	27	0	11.2	18.2	14.3
08522	12	Z	100	28	0	11.0	11.5	-3.0
08594	12	Z	100	24	0	12.7	17.1	-11.5
71600	00	Z	100	30	0	8.8	13.8	10.6
71600	12	Z	100	31	0	12.4	25.0	21.6
72201	00	Z	100	29	0	11.3	14.1	8.4
72201	12	Z	100	30	0	13.6	22.2	17.6
72402	00	Z	100	30	0	9.5	37.2	36.0
72402	12	Z	100	31	0	9.8	24.7	22.7

74494	00	Z	100	25	0	49.5	56.5	27.3
74494	12	Z	100	30	0	14.9	19.7	13.0
78016	00	Z	100	30	0	7.4	20.0	18.6
78016	12	Z	100	29	0	11.4	21.5	18.2

TABLE 11
MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS		:Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	500	9	0	9.3	21.9	19.8
ASDE01	12	Z	500	9	0	21.6	25.5	13.7
ASDE02	12	Z	500	3	0	4.8	5.3	-2.3
ASDE03	00	Z	500	6	0	1.6	28.5	28.5
ASDE03	12	Z	500	9	0	5.3	28.6	28.1
ASDE04	00	Z	500	1	0	0.0	4.0	-4.0
ASDE04	12	Z	500	1	0	0.0	8.0	-8.0
ASEU01	00	Z	500	9	0	6.6	6.6	-1.1
ASEU01	12	Z	500	8	0	8.2	8.3	-1.4
ASEU02	00	Z	500	10	0	6.5	6.6	-1.5
ASEU02	12	Z	500	11	0	13.5	13.6	-1.3
ASEU03	00	Z	500	8	0	8.6	8.9	2.3
ASEU03	12	Z	500	4	0	4.3	4.3	0.0
ASEU04	00	Z	500	5	0	36.0	53.1	39.0
ASEU04	12	Z	500	7	0	12.8	17.2	11.4
ASEU05	00	Z	500	16	0	9.6	9.8	2.1
ASEU05	12	Z	500	16	0	6.4	8.6	5.8
ASUK01	00	Z	500	7	0	4.5	27.1	26.7
ASUK01	12	Z	500	9	0	6.4	31.3	30.7
EBUQ	12	Z	500	19	0	5.8	8.2	-5.8
ELML7	00	Z	500	3	0	2.9	5.0	4.0
ELML7	12	Z	500	3	0	6.5	11.4	-9.3
FQFL	00	Z	500	11	0	6.3	18.6	-17.5
FQFL	12	Z	500	11	0	9.0	15.4	-12.5
FQFM	00	Z	500	13	0	7.5	21.4	-20.0
FQFM	12	Z	500	12	0	5.8	16.8	-15.8
LDWR	00	Z	500	30	0	5.3	6.9	4.4
LDWR	12	Z	500	30	0	5.9	6.1	1.4
MCOUA	00	Z	500	1	0	0.0	8.0	8.0
MCOUA	12	Z	500	16	0	7.6	16.5	14.6
OXGN2	00	Z	500	9	0	4.1	9.1	8.1
OXGN2	12	Z	500	12	1	20.9	25.6	14.8
OXVH2	00	Z	500	10	0	6.3	7.4	3.8
OXVH2	12	Z	500	9	0	7.0	10.3	7.6
V2XM	00	Z	500	12	0	8.1	21.7	20.2
V2XM	12	Z	500	10	0	10.9	18.3	14.7
03953	00	Z	500	30	0	9.3	9.3	0.2
03953	12	Z	500	31	0	7.4	8.0	-3.0
04018	00	Z	500	30	0	6.6	6.7	1.1
04018	12	Z	500	30	0	9.5	9.8	2.4
04220	00	Z	500	29	0	8.0	9.7	5.6
04220	12	Z	500	31	0	9.5	11.0	5.5
04270	00	Z	500	30	0	8.5	8.8	-2.2
04270	12	Z	500	31	0	9.3	9.3	0.9
04339	00	Z	500	30	0	10.4	10.4	1.0
04339	12	Z	500	30	0	13.9	14.7	4.8
04360	00	Z	500	28	0	8.3	9.7	4.9
04360	12	Z	500	31	0	13.7	17.2	10.3
08001	00	Z	500	29	0	5.3	5.5	1.4
08001	12	Z	500	28	0	7.1	7.2	1.5
08508	12	Z	500	27	0	5.4	7.6	-5.4
08522	12	Z	500	28	0	4.9	10.8	-9.6
08594	12	Z	500	24	0	6.5	10.3	-8.0
71600	00	Z	500	30	0	6.2	7.1	-3.5
71600	12	Z	500	31	0	5.4	6.0	2.6
72201	00	Z	500	29	0	4.5	4.5	-0.8
72201	12	Z	500	31	0	4.8	5.5	-2.8
72402	00	Z	500	30	0	6.5	7.4	3.5
72402	12	Z	500	31	0	5.9	5.9	0.1
74494	00	Z	500	27	0	12.6	12.7	1.0

74494	12	Z	500	30	0	4.9	5.0	-1.2
78016	00	Z	500	30	0	4.9	5.7	2.9
78016	12	Z	500	31	0	3.9	7.0	5.9

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	100	8	0	0	3.0	0.5	-1.1
ASDE01	12	V	100	9	0	0	3.0	0.1	-0.9
ASDE02	12	V	100	2	0	0	7.1	-5.1	-2.4
ASDE03	00	V	100	5	0	0	2.4	-0.2	1.3
ASDE03	12	V	100	9	0	0	3.3	0.1	0.8
ASDE04	00	V	100	1	0	0	7.5	-7.4	-1.2
ASDE04	12	V	100	1	0	0	9.8	-8.9	4.1
ASEU01	00	V	100	8	0	0	4.6	1.7	0.5
ASEU01	12	V	100	7	0	0	3.4	1.2	-0.8
ASEU02	00	V	100	7	0	0	3.3	-0.6	0.0
ASEU02	12	V	100	11	0	0	3.9	0.2	0.0
ASEU03	00	V	100	6	0	0	2.9	0.2	1.3
ASEU03	12	V	100	3	0	0	2.4	1.2	-0.4
ASEU04	00	V	100	2	0	0	3.4	-0.1	1.3
ASEU04	12	V	100	3	0	0	1.9	1.7	0.2
ASEU05	00	V	100	16	0	0	4.2	0.6	-0.7
ASEU05	12	V	100	14	0	0	4.3	0.9	-0.7
ASUK01	00	V	100	7	0	0	3.0	-1.0	-0.3
ASUK01	12	V	100	7	0	0	2.9	1.2	-0.6
EBUQ	12	V	100	15	0	0	4.7	0.1	0.1
ELML7	00	V	100	3	0	0	4.8	-0.8	1.3
ELML7	12	V	100	3	0	0	3.1	-0.4	-0.2
FQFL	00	V	100	9	0	0	2.8	-1.0	0.5
FQFL	12	V	100	7	0	0	4.3	1.1	1.8
FQFM	00	V	100	11	0	0	3.5	0.2	-0.1
FQFM	12	V	100	10	0	0	2.7	-0.8	0.4
LDWR	00	V	100	29	0	0	2.6	-0.1	-0.1
LDWR	12	V	100	29	0	0	2.6	0.2	0.3
MCOUA	00	V	100	1	0	0	5.9	-3.7	-4.6
MCOUA	12	V	100	16	0	0	6.3	0.0	-0.1
OXGN2	00	V	100	9	0	0	1.7	0.4	0.6
OXGN2	12	V	100	11	0	0	2.4	0.5	1.3
OXVH2	00	V	100	8	0	0	2.2	-1.0	0.4
OXVH2	12	V	100	8	0	0	2.5	0.3	0.2
V2XM	00	V	100	12	0	0	3.5	0.0	0.3
V2XM	12	V	100	8	0	0	3.6	0.8	-0.8
03953	00	V	100	27	0	0	3.6	-0.4	0.4
03953	12	V	100	29	0	0	3.3	0.6	0.3
04018	00	V	100	29	0	0	2.5	0.1	0.0
04018	12	V	100	30	0	0	2.8	0.8	0.1
04220	00	V	100	29	0	0	2.4	-0.2	0.0
04220	12	V	100	29	0	0	2.5	-0.4	0.6
04270	00	V	100	30	0	0	2.5	-0.1	-0.3
04270	12	V	100	31	0	0	2.4	0.0	-0.1
04339	00	V	100	30	0	0	2.9	-0.1	0.4
04339	12	V	100	28	0	0	2.3	0.1	0.4
04360	00	V	100	28	0	0	2.0	-0.3	-0.3
04360	12	V	100	31	0	0	2.4	-0.2	-0.7
08001	00	V	100	27	0	0	3.1	-1.2	-0.2
08001	12	V	100	19	0	0	3.1	-0.3	-0.2
08508	12	V	100	14	0	0	4.5	0.5	1.3
08522	12	V	100	28	0	0	3.8	0.7	-0.3
08594	12	V	100	24	0	100	3.5	-0.4	-0.6
71600	00	V	100	30	0	0	3.1	0.6	0.0
71600	12	V	100	31	0	0	3.1	0.0	1.3
72201	00	V	100	29	0	0	4.1	-0.4	-1.5
72201	12	V	100	30	0	0	3.3	0.6	-0.5
72402	00	V	100	29	0	0	4.4	-1.0	0.9
72402	12	V	100	31	0	0	3.5	0.0	-0.3

74494	00	V	100	25	0	100	2.4	0.0	0.5
74494	12	V	100	30	0	100	3.2	0.6	1.0
78016	00	V	100	30	0	0	5.5	-1.2	0.6
78016	12	V	100	29	0	0	3.8	0.5	1.0

TABLE 13
MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: May 06

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s ⁻¹
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS:	Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	500	9	0	0	2.6	0.2	0.7
ASDE01	12	V	500	9	0	0	3.5	0.7	0.4
ASDE02	12	V	500	3	0	0	3.3	0.1	-2.2
ASDE03	00	V	500	6	0	0	4.1	-0.9	-0.7
ASDE03	12	V	500	9	0	0	3.0	-0.3	-0.3
ASDE04	00	V	500	1	0	0	3.9	0.4	-3.9
ASDE04	12	V	500	1	0	0	2.4	1.7	1.7
ASEU01	00	V	500	9	0	0	3.2	-0.1	-1.6
ASEU01	12	V	500	8	0	0	3.8	0.8	-0.9
ASEU02	00	V	500	9	0	0	2.9	-0.8	-0.5
ASEU02	12	V	500	11	0	0	3.5	-0.1	-1.5
ASEU03	00	V	500	6	0	0	5.2	-1.6	1.8
ASEU03	12	V	500	3	0	0	1.8	-0.5	0.1
ASEU04	00	V	500	2	0	0	3.9	-2.3	-0.8
ASEU04	12	V	500	3	0	0	3.6	-0.3	0.1
ASEU05	00	V	500	16	0	0	4.1	-0.1	-0.3
ASEU05	12	V	500	16	0	0	3.5	0.1	-0.5
ASUK01	00	V	500	6	0	0	3.9	-1.2	1.8
ASUK01	12	V	500	7	0	0	2.6	-0.1	-0.1
EBUQ	12	V	500	15	0	0	3.0	-0.6	0.0
ELML7	00	V	500	3	0	0	3.6	-0.5	1.8
ELML7	12	V	500	3	0	0	2.3	-1.9	-0.7
FQFL	00	V	500	11	0	0	3.7	0.3	1.1
FQFL	12	V	500	11	0	0	3.3	0.1	-0.1
FQFM	00	V	500	13	0	0	3.3	-0.5	-0.1
FQFM	12	V	500	13	0	7	7.1	-1.8	0.6
LDWR	00	V	500	30	0	0	3.6	0.0	0.1
LDWR	12	V	500	30	0	0	3.1	-0.4	-1.1
MCOUA	00	V	500	1	0	0	6.3	5.6	2.8
MCOUA	12	V	500	16	0	0	3.6	0.3	0.7
OXGN2	00	V	500	9	0	0	1.9	0.2	-0.3
OXGN2	12	V	500	13	0	7	5.7	0.7	0.6
OXVH2	00	V	500	9	0	0	2.7	0.1	-0.4
OXVH2	12	V	500	9	0	0	3.0	-1.2	0.0
V2XM	00	V	500	12	0	0	4.4	-1.8	1.1
V2XM	12	V	500	9	0	0	3.4	-0.6	-0.8
03953	00	V	500	30	0	0	3.7	-0.7	0.6
03953	12	V	500	31	0	0	4.1	-0.2	1.0
04018	00	V	500	30	0	0	4.0	-0.4	-1.0
04018	12	V	500	30	0	0	3.8	-0.5	0.3
04220	00	V	500	29	0	0	3.4	0.1	-0.7
04220	12	V	500	31	0	0	2.9	-0.7	-0.8
04270	00	V	500	30	0	3	4.7	-0.7	-0.2
04270	12	V	500	31	0	0	3.1	-0.4	-0.3
04339	00	V	500	30	0	0	3.4	0.9	0.0
04339	12	V	500	30	0	0	2.9	0.1	0.3
04360	00	V	500	28	0	0	3.6	0.3	0.1
04360	12	V	500	31	0	0	3.0	1.3	0.1
08001	00	V	500	29	0	0	4.2	0.4	0.1
08001	12	V	500	22	0	0	3.2	1.0	0.3
08508	12	V	500	13	0	0	3.4	0.5	0.4
08522	12	V	500	28	0	0	3.6	-1.1	0.5
08594	12	V	500	24	0	0	2.7	-0.2	-0.2
71600	00	V	500	30	0	0	3.2	-1.1	-0.3
71600	12	V	500	31	0	0	3.6	-0.8	0.4
72201	00	V	500	29	0	0	2.3	0.3	0.4
72201	12	V	500	31	0	0	3.6	-0.1	-0.3
72402	00	V	500	29	0	0	2.9	-0.1	-0.3
72402	12	V	500	31	0	0	3.0	0.0	0.6

74494	00	V	500	27	0	0	3.3	-0.5	-0.1
74494	12	V	500	30	0	0	3.1	-0.3	0.6
78016	00	V	500	30	0	0	3.5	-1.1	0.8
78016	12	V	500	31	0	0	3.8	-0.3	0.6

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45

